L400 SERIES NETWORKABLE DVR

Instruction Manual

English Version 1.0

MODEL:
L404/L408/L416

LOREX®

www.lorexcctv.com

Copyright © 2006 LOREX Technology Inc.

Thank you for purchasing the L400 Series DVR. Lorex is committed to providing our customers with a high quality, reliable security product.

The L400 Series line of Pentaplex Network DVR's offer a full-featured Networkable video recording solution. Record in Real Time with 120 fps recording capability. Images can be easily transferred using the built in CDRW optical drive or USB flash drive. The system can be viewed and controlled over the internet from a remote location with a password protected browser-based application. Easy access via the Free LOREX DDNS Service is included.

To learn more about this L400 Series DVR, and to learn about our complete range of accessory products, please visit our website at:

http://www.lorexcctv.com

CAUTION

RISK OF ELECTRIC SHOCK
DO NOT OPEN

CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK
DO NOT REMOVE COVER (OR BACK).
NO USER SERVICEABLE PARTS INSIDE.
REFER SERVICING TO A QUALIFIED SERVICE PERSONNEL

The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

WARNING: TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS UNIT TO RAIN OR MOISTURE.

CAUTION: TO PREVENT ELECTRIC SHOCK, MATCH WIDE BLADE OF PLUG TO WIDE SLOT, FULLY INSERT.

Important Safeguards

In addition to the careful attention devoted to quality standards in the manufacture process of your video product, safety is a major factor in the design of every instrument. However, safety is your responsibility too. This sheet lists important information that will help to assure your enjoyment and proper use of the video product and accessory equipment. Please read them carefully before operating and using your video product.

Installation

1. **Read and Follow Instructions -** All the safety and operating instructions should be read before the video product is operated. Follow all operating instructions.

2. **Retain Instructions -** The safety and operating instructions should be retained for future reference.

3. **Heed Warnings -** Comply with all warnings on the video product and in the operating instructions.

4. **Polarization -** Do not defeat the safety purpose of the polarized or grounding-type plug.

   A polarized plug has two blades with one wider than the other.

   A grounding type plug has two blades and a third grounding prong.

   The wide blade or the third prong are provided for your safety.

   If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet

5. **Power Sources -** This video product should be operated only from the type of power source indicated on the marking label. If you are not sure of the type of power supply to your location, consult your video dealer or local power company. For video products intended to operate from battery power, or other sources, refer to the operating instructions.

6. **Overloading -** Do not overload wall outlets of extension cords as this can result in the risk of fire or electric shock. Overloaded AC outlets, extension cords, frayed power cords, damaged or cracked wire insulation, and broken plugs are dangerous. They may result in a shock or fire hazard. Periodically examine the cord, and if its appearance indicates damage or deteriorated insulation, have it replaced by your service technician.

7. **Power-Cord Protection -** Power supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords at plugs, convenience receptacles, and the point where they exit from the video product.

8. **Ventilation -** Slots and openings in the case are provided for ventilation to ensure reliable operation of the video product and to protect it from overheating. These openings must not be blocked or covered. The openings should never be blocked by placing the video equipment on a bed, sofa, rug, or other similar surface. This video product should never be placed near or over a radiator or heat register. This video product should not be placed in a built-in installation such as a bookcase or rack unless proper ventilation is provided or the video product manufacturer's instructions have been followed.

9. **Attachments -** Do not use attachments unless recommended by the video product manufacturer as they may cause a hazard.

10. **Water and Moisture -** Do not use this video product near water. For example, near a bath tub, wash bowl, kitchen sink or laundry tub, in a wet basement, near a swimming pool and the like.

    Caution: Maintain electrical safety. Powerline operated equipment or accessories connected to this unit should bear the UL listing mark of CSA certification mark on the accessory itself and should not be modified so as to defeat the safety features. This will help avoid any potential hazard from electrical shock or fire. If in doubt, contact qualified service personnel.

11. **Accessories** - Do not place this video equipment on an unstable cart, stand, tripod, or table. The video equipment may fall, causing serious damage to the video product. Use this video product only with a cart, stand, tripod, bracket, or table recommended by the manufacturer or sold with the video product. Any mounting of the product should follow the manufacturer's instructions and use a mounting accessory recommended by the manufacturer.

Service

13. **Servicing -** Do not attempt to service this video equipment yourself as opening or removing covers may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel.

14. **Conditions Requiring Service** - Unplug this video product from the wall outlet and refer servicing to qualified service personnel under the following conditions.

    A. When the power supply cord or plug is damaged.

    B. If liquid has been spilled or objects have fallen into the video product.

    C. If the video product has been exposed to rain or water.

    D. If the video product does not operate normally by following the operating instructions. Adjust only those controls that are covered by the operating instructions. Improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the video product to its normal operation.

    E. If the video product has been dropped or the cabinet has been damaged.

    F. When the video product exhibits a distinct change in performance. This indicates a need for service.

15. **Replacement Parts -** When replacement parts are required, have the service technician verify that the replacements used have the same safety characteristics as the original parts. Use of replacements specified by the video product manufacturer can prevent fire, electric shock or other hazards.

16. **Safety Check** - Upon completion of any service or repairs to this video product, ask the service technician to perform safety checks recommended by the manufacturer to determine that the video product is in safe operating condition.

17. **Wall or Ceiling Mounting** - The cameras provided with this system should be mounted to a wall or ceiling only as instructed in this guide, using the provided mounting brackets.

18. **Heat** - The product should be situated away from heat sources such as radiators, heat registers, stoves, or other products (including amplifiers) that produce heat.

Use

19. **Cleaning -** Unplug the video product from the wall outlet before cleaning. Do not use liquid cleaners or aerosol cleaners. Use a damp cloth for cleaning.

20. **Product and Cart Combination** - Video and cart combination should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the video product and car combination to overturn.

21. **Object and Liquid Entry -** Never push objects for any kind into this video product through openings as they may touch dangerous voltage points or “short-out” parts that could result in a fire or electric shock. Never spill liquid of any kind on the video product.

22. **Lightning** - For added protection for this video product during a lightning storm, or when it is left unattended and unused for long periods of time, unplug it from the wall outlet and disconnect the antenna or cable system. This will prevent damage to the video product due to lightning and power line surges.

NOTE

This equipment has been certified and found to comply with the limits regulated by FCC, EMC, and LVD. Therefore, it is designated to provide reasonable protection against interference and will not cause interference with other appliance usage.

However, it is imperative that the user follows this manuals guidelines to avoid improper usage which may result in damage to the unit, electrical shock and fire hazard injury

In order to improve the feature functions and quality of this product, the specifications are subject to change without notice from time to time.

FCC CLASS B NOTICE

Note:

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction, may cause harmful interference to radio communications.

However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception (which can be determined by turning the equipment on and off), the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna
- Increase the separation between the equipment and receiver
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected
- Consult the dealer or an experienced radio or television technician for assistance

General Precautions

1. All warnings and instructions of this manual should be followed
2. Remove the plug from the outlet before cleaning. Do not use liquid aerosol detergents. Use a water dampened cloth for cleaning
3. Do not use this unit in humid or wet places
4. Keep enough space around the unit for ventilation. Slots and openings in the storage cabinet should not be blocked
5. During lightning storms, or when the unit is not used for a long time, disconnect the power supply, antenna, and cables to protect the unit from electrical surge

LOREX TECHNOLOGY INC.

http://www.lorexcctv.com

L400 Series DVR Features

- 4/8/16 Channel Pentaplex Network DVR with up to 480 FPS live view and 120 FPS record capability
- Pentaplex network system: simultaneous local playback, view, record plus network view and playback
- MPEG4 video compression for efficient file transfer
- CDRW optical drive and USB port for transferring critical images
- Network view & control via browser based application
- VGA Output (available only on 8 Ch & 16 Ch systems)
- Rack mountable
- Supports up to 1 TB internal data storage
- Adjustable video quality settings
- Quick multiple search by date/time, alarm or full list
- Security password protection
- Integrated video motion detection

Lorex_400_Series im 140906

Table of Contents

Getting Started 9
L400 Series - Front 10
L400 Series - Back 12
Remote Control 14
Starting the DVR 15
Main Menu Control 16
Main Menu Tree 17
Display Set 18
- Display Set Menu Tree 18
- Camera Covert 19
- Camera Name 19
- OSD ON/OFF Covert 20
- Set Display Sequence 20
- Event Clear 21

Recording Set 22
- Recording Set Menu Tree 22
- Global Parameters 24
- Normal Recording 24
- Alarm Recording 25
- Motion Recording 26
- Schedule Recording 28
- Recording ON/OFF 29

System Set 30
- System Set Menu Tree 30
- Basic 31
- Disk Format 32
- Password Change 32
- Client Account 33
- Program Update 33
- PTZ Menu 34

Network Set 35
- DDNS Set 35
- IP Set 36

Event Notification ..... 37 - 38
- Email Registration 38
- Email Report 38
- Notification Out 39

Event Search Function 40
- Date / Time Search 41
- Calendar Search 41

External USB Connection 43
- Backup to USB 43
- Updating the DVR Firmware 44
- Compatible USB Devices 44

Table of Contents

Network Connectivity 45
DVR Network Settings 46
Finding Your External IP Address 46
Router Port Forwarding 47
Setting Up Your DDNS Account 4 8
Setting up DDNS on the DVR 50
Accessing the DVR Locally / Remotely with a PC 51
Internet Explorer Settings - Active X Controls 51
Internet Explorer Settings - Allowing Pop-Ups 52
Web Client Software 53
Minimum System Requirements: 53
Logging Into Live Monitoring 53
Web Client - Main Window 54
Channels Window 55
Detail Tabs 55
Remote/Local Controls 55-56
System 56
Remote/Local Controls 57
Save Controls 58
Live 59
Disconnect 59
Pan/Tilt/Zoom 59
Display Options 60
Connect Button 60
Setup 60
Channel Buttons 67
Date / Time 67
Troubleshooting 68-79
DVR Specifications - Appendix #1 70-71
Connecting Cameras - Appendix #2 72
Connecting to an Observation System - Appendix #3 73
Connecting a TV/Slave Monitor - Appendix #4 7 4
Connecting Motion / Alarm Device - Appendix #5 75
Full Connectivity Diagram - Appendix #6 76
Optional Accessories 77

Getting Started

The L400 Series comes with the following components:

L400 SERIES DVR

REMOTE CONTROL

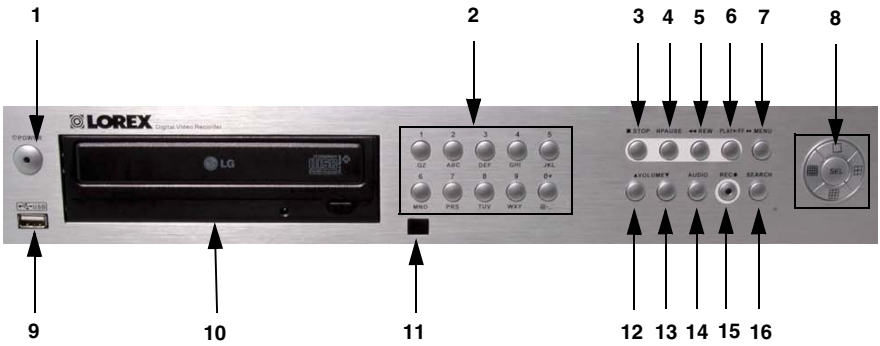
POWER CABLE

RACK MOUNT BRACKET KIT

4 x RUBBER FEET (FOR BASE)

CHECK YOUR PACKAGE TO CONFIRM THAT YOU HAVE RECEIVED THE COMPLETE SYSTEM, INCLUDING ALL COMPONENTS SHOWN ABOVE.

L400 Series - Front

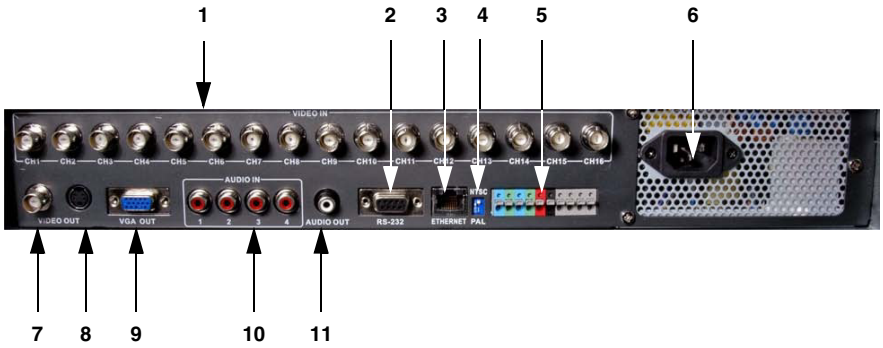


1. **POWER -** Turns the DVR unit ON/OFF**.**
2. **NUMBER / LETTER PAD**
   - Use the numbers to switch between cameras in View mode.
   - Use the Numbers and Letters for Menu data input.
3. **STOP -** Stops the playback of a previously recorded event.
4. **PAUSE -** Pauses the playback of a previously recorded event.
5. **REV -** REVERSES the playback of a previously recorded event.
6. **PLAY/FWD** - Starts the playback of a previously recorded event. If the PLAY/FF button is pressed during playback, the FAST FORWARD option will become active
7. **MENU -** Accesses the DVR system menu options. See page # for details.
8. **SCREEN SELECT / MENU NAVIGATION -** Performs a dual purpose:
   - Changes the Camera view to Single, 4 Camera, 9 Camera or 16 Camera views.
   - Use the ↑↓←→ buttons to navigate through the MENU options (in MENU mode).

9. **USB PORT -** Connection port for a removable USB Hard Drive (USB Key)
10. **OPTICAL DRIVE** - Drive bay for (OPTIONAL) CD-RW Drive
11. **IR RECEIVER -** Used to receive a signal from a Remote Control
12. **VOLUME UP** - Raise system volume.
13. **VOLUME DOWN -** Lower system volume.
14. **AUDIO** - Switches between cameras 1-4 to receive audio

    * Only one channel audio available on the 4-Channel DVR Model.
15. **REC -** Manually starts/stops recording of the currently displayed camera.
16. **SEARCH -** Accesses the Search Menu. See page # for Search Menu options.k.

L400 Series - Back



1. **BNC VIDEO INPUTS -** Video inputs for direct connection to Cameras or for looping input to a DVR. The number of ports will vary based on the DVR model (4 Channel, 8 Channel or 16 Channel).

2. **RS232 PORT -** Connection for an RS-232 Device

   * Not available on 4-Channel DVR Model.

3. **ETHERNET PORT** - Connects the DVR to a router for connection to the internet. Refer to the Instructions on Page # for Remote Connection.

4. **NTSC/PAL SWITCH** - Changes the DVR unit between NTSC and PAL modes

5. **ALARM / SENSOR BLOCK -** Ports for connecting an Alarm or Sensor Device (such as a Motion Sensor or Window/Door Sensor)

6. **AC INPUT** - Connect the AC power using the power cord provided with the unit from the DVR to an electrical outlet

7. **COMPOSITE** - A Composite Video OUT connection used to connect the DVR to a Slave Monitor or DVR.

8. **S-VIDEO** - Outgoing connection for S-VIDEO

9. **VGA PORT** - Used to connect the DVR to a computer Monitor.

   * Not available on 4-Channel DVR Model.

10. **AUDIO INPUTS** - Connect up to 4 camera Audio inputs

11. **AUDIO OUT** - Connect the Audio OUT to the AUDIO IN on an DVR or Monitor.

Remote Control

Listed below is a quick reference for the Remote Control. For details on specific features, refer to the L400 Series - Front Panel features on Pages 10-15

POWER BUTTON - Turns the DVR ON

NUMBER PAD - Control for Cameras 1-16 & used for adding information in the Menu system.

INFO - Displays system details

MUTE - Turns sound ON/OFF

MENU - Accesses the DVR Menu System

SEL / CONTROLS - Switch between display modes (Single, Quad, 9 and 16). SEL used as the Select function in the Menu.

VOL - Adjusts the Volume UP/DOWN

REC - Starts/Stops Manual Recording

PTZ - Accesses the Pan/Tilt/Zoom Setup menu

OSD - Configures the On Screen Display settings

SEQ - Sets camera display to Sequence

LOG - View system log details

AUDIO - Switches the current Audio Channel (only one audio channel on the 4 Channel DVR model)/

SEARCH - Accesses the Search Menu.

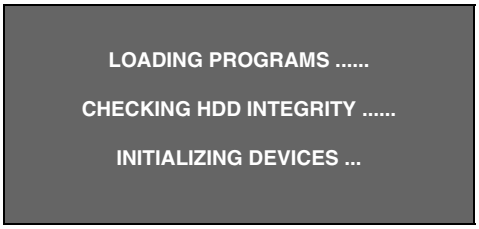
CH -/+ - Switches between Channels

PLAYBACK CONTROLS - Controls the playback of a previously recorded event

NOTE - Remote Control may not be exactly as shown - color may vary.

Starting the DVR - Self Test Screens

Once the DVR has been connected and powered on, the following self-test screens will appear:



NOTE: If a new **HARD DRIVE** is detected by the system, the DVR will automatically FORMAT the new drive.

Starting the DVR - QUAD Display

After the system self-tests have been completed, the DVR will switch to the CAMERA viewing screens (in QUAD MODE) with the following information displayed on screen:

- **CH1-CH4**: Camera title indicators
- **HDD%:** Percentage of Hard Drive used
- **MM/DD/YYYY - HH:MM:SS**: The current system date and time.

If a camera is not detected, the associated portion of the QUAD or MULTI screen will display a BLUE SCREEN.

Powering Off the DVR/Stopping Recording

In order to power down the DVR Unit, or to manually stop the current recording, the default system password of '00000000' will need to be entered (when prompted). If the default password is changed, then the new user specified password will be used instead.

Main Menu Control

- Enter the **MENU** screen by pressing the **MENU** button. The System Password may be required, based on system settings.
- Scroll through the 5 Main options by pressing the ↑↓ buttons.
- To enter a sub-menu, navigate to the option and press the **SEL** button.
- To exit a **SUBMENU**, press the **MENU** button. To save the changes, select the **SAVE & EXIT** option and press the **SEL** button.
- Pressing the **MENU** button from the **MAIN MENU** will exit the **MENU** configuration screen

Outlined below are the buttons used to access menu settings:

↑↓←→ : Scroll up and down within a menu option / Change menu options
SEL : Press this button to select and change the values in a menu option
MENU : Complete modifications of a menu option; exit a menu

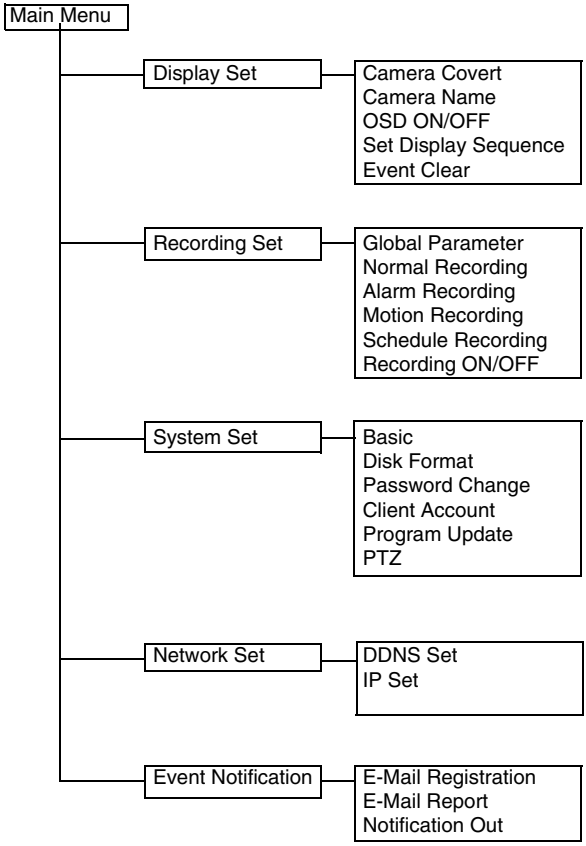
NOTE:
After 60 seconds of inactivity in the Menu mode, the system will go back to the previously displayed live camera screen

DISPLAY SET	Set the display options
RECORDING SET	Set the Recording options
SYSTEM SET	Set the System options
NETWORK SET	Set the Network Options
EVENT NOTIFICATION	Setup for Event Notifications through Email

MAIN MENU

DISPLAY SET
RECORDING SET
SYSTEM SET
NETWORK SET
EVENT NOTIFICATION

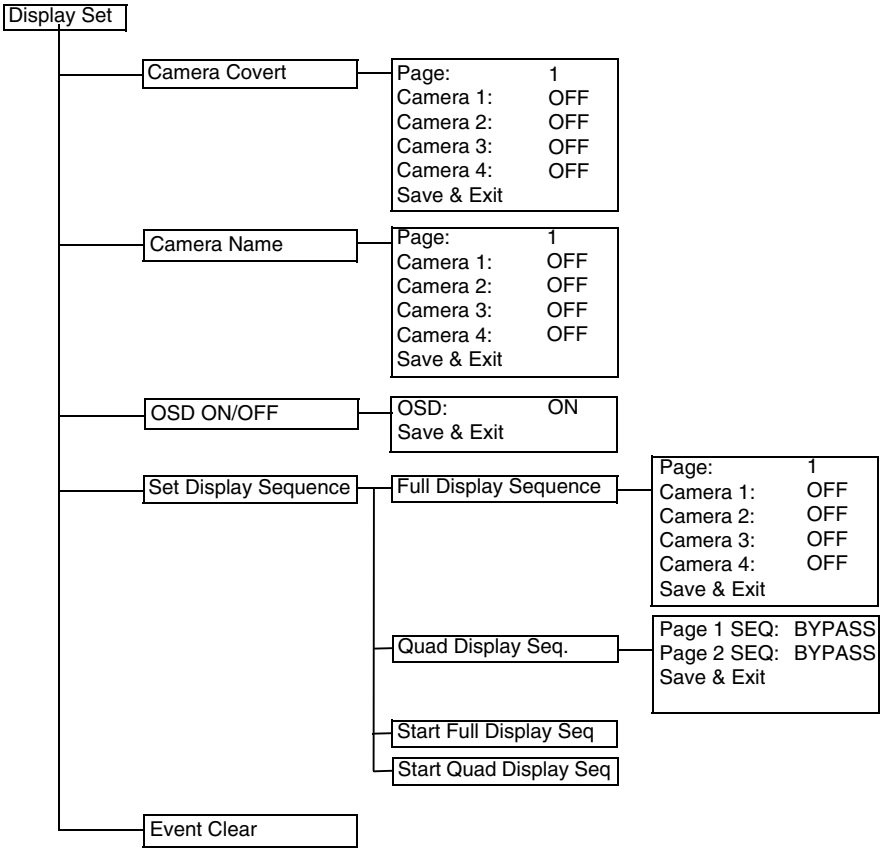
Main Menu Tree



Display Set

This submenu allows you to change the **DISPLAY** options for the DVR unit and any connected cameras. Selecting options on this Menu will access additional settings and options.

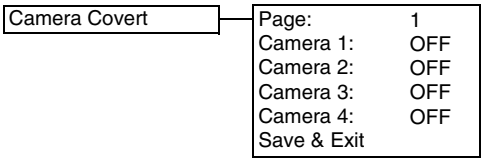
Display Set Menu Tree



Display Set

Camera Covert

Turns Camera display ON/OFF The DVR unit will continue to record, even if all cameras are set to OFF.

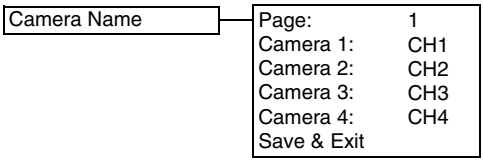


NOTE: The number of cameras displayed will change based on the Model of DVR - 4, 8 or 16 Cameras are available.

1. **PAGE**: Displays up to 8 camera configurations per page (second page only available for 16 camera setups). To change the page, press the ↑ and ↓ buttons to highlight, and press the **SEL** button to change to Page 2.
2. **CAMERA 1 - CAMERA #:** Turn the Camera display ON/OFF. To change the camera setting, press the ↑ and ↓ buttons to highlight, and press the ←→ buttons to change to ON/OFF.
3. **SAVE & EXIT**: Saves any changes made, and exits to the Main Menu. Press the ↑ and ↓ buttons to highlight, and press the **SEL** button to accept the changes.

Camera Name

Camera names can be set up using this menu.

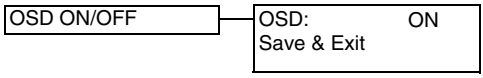


NOTE: The number of cameras displayed will change based on the Model of DVR - 4, 8 or 16 Cameras are available.

1. **PAGE**: Displays up to 8 camera configurations per page (second page only available for 16 camera setups). To change the page, press the ↑ and ↓ buttons to highlight, and press the **SEL** button to change to Page 2.
2. **CAMERA 1 - CAMERA #:** Change the name for the Cameras. To change the camera setting, press the ↑ and ↓ buttons to highlight, and press the **SEL** button to select a camera - a flashing ↩symbol will appear. Use the **NUMBER PAD** and ← and → buttons on the front of the DVR to change the name (A-Z, 0-9) to a maximum of 8 characters. Press the **SEL** button to accept the change.
3. **SAVE & EXIT**: Saves any changes made, and exits to the Main Menu. Press the ↑ and ↓ buttons to highlight, and press the **SEL** button to accept the changes.

OSD ON/OFF Covert

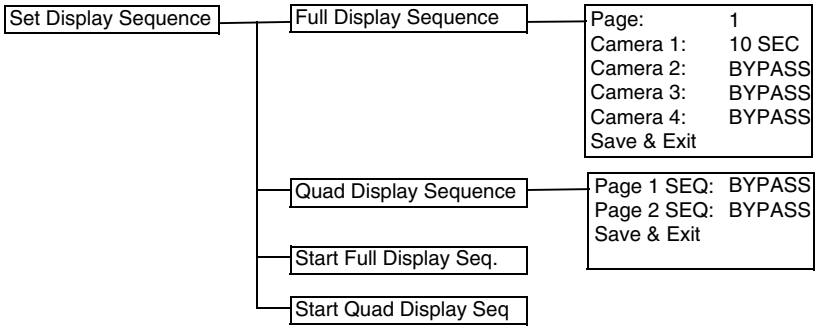
Turns the information display/camera names, hard drive usage, date and time) ON/OFF.



1. **OSD**: Turns the ON SCREEN DISPLAY to ON/OFF. To change the setting, press the ↑ and ↓ buttons to highlight, and press the ←→ buttons to switch between ON/OFF.
2. **SAVE & EXIT**: Saves any changes made, and exits to the Main Menu. Press the ↑ and ↓ buttons to highlight, and press the **SEL** button to accept the changes.

Set Display Sequence

Display Settings for Single or Quad display of the cameras (in Sequence Mode).



NOTE: The number of cameras displayed on submenus will change based on the Model of DVR: 4, 8 or 16 Cameras are available.

Set Display Sequence

1. **FULL DISPLAY SEQUENCE**: Set the length of time each camera is displayed in cycling Full Screen Display mode:

   - **PAGE**: Displays up to 8 camera configurations per page (second page only available for 16 camera setups). To change the page, press the ↑ and ↓ buttons to highlight, and press the **SEL** button to change to Page 2.

   - **CAMERA 1 - CAMERA #:** Set the length of time that a Camera is displayed in Sequence Mode. To change the camera setting, press the ↑ and ↓ buttons to highlight, and use the ← and → buttons on the front of the DVR to change the length of time a Camera is displayed. Options include 5, 10, 15, 30, 45, 60 (in seconds) and Bypass.

   - **SAVE & EXIT**: Saves any changes made, and exits to the Main Menu. Press the ↑ and ↓ buttons to highlight, and press the **SEL** button to accept the changes.

2. **QUAD DISPLAY SEQUENCE**: Set the length of time each QUAD of cameras (4 cameras per page) is displayed in cycling QUAD Display mode:

   - **PAGE # SEQ**: Set the length of time that a QUAD of Cameras is displayed in Sequence. To change the Page setting, press the ↑ and ↓ buttons to highlight. Page 1 (Cameras 1-4), Page 2 (Cameras 5-8) etc. Use the ← and → buttons on the front of the DVR to change the length of time a Quad is displayed. Options include 5, 10, 15, 30, 45, 60 (in seconds) and Bypass.

   - **SAVE & EXIT**: Saves any changes made, and exits to the Main Menu. Press the ↑ and ↓ buttons to highlight, and press the **SEL** button to accept the changes.

3. **START FULL DISPLAY SEQUENCE**: Starts viewing Cameras in Full Screen Display Sequence Mode (based on the settings configured in the **FULL DISPLAY SEQUENCE** menu).

4. **START QUAD DISPLAY SEQUENCE**: Starts viewing Cameras in QUAD Display Sequence Mode (based on the settings configured in the **QUAD DISPLAY SEQUENCE** menu).

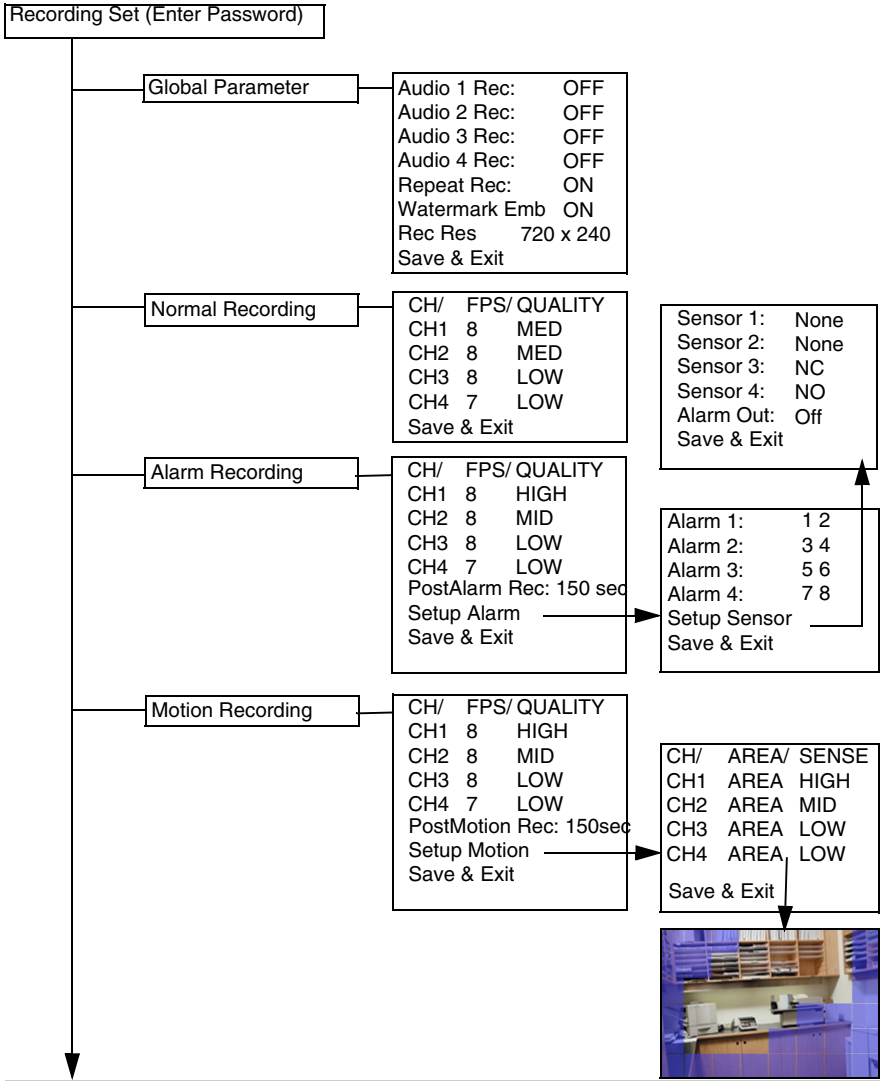
Event Clear

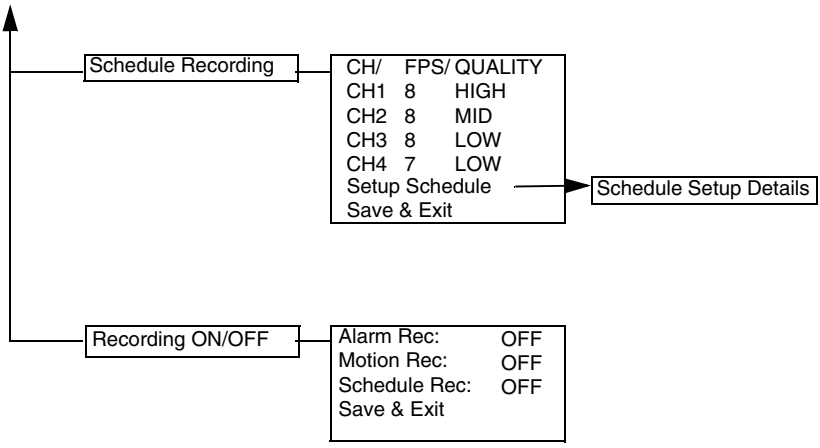
Clears the listing of Previously Recorded Events on the DVR Hard Drive.

Recording Set

This submenu allows you to change the **RECORDING** options for the DVR unit. Selecting options on this Menu will access additional settings and options.

Recording Set Menu Tree

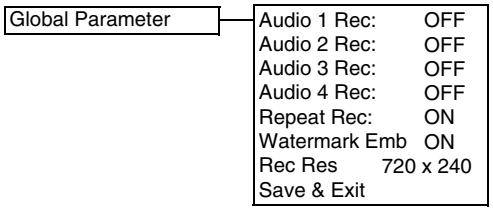



Schedule Recording
CH/ FPS/ QUALITY
CH1 8 HIGH
CH2 8 MID
CH3 8 LOW
CH4 7 LOW
Setup Schedule
Save & Exit
Schedule Setup Details
Recording ON/OFF
Alarm Rec: OFF
Motion Rec: OFF
Schedule Rec: OFF
Save & Exit

Recording Set

Global Parameters

Settings for General Parameters.



1. **AUDIO # REC**: Turns Audio recording ON/OFF. press the ↑ and ↓ buttons to highlight, and press the ←→ buttons to change to ON/OFF.

2. **REPEAT RECORDING:** Allows the DVR unit to repeat recording. To change the setting, press the ↑ and ↓ buttons to highlight, and press the ←→ buttons to change to ON/OFF.

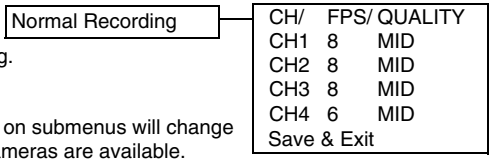
3. **WATERMARK EMBEDDING**: Adds Watermarking to the recorded event. Press the ↑ and ↓ buttons to highlight, and press the ←→ buttons to change to ON/OFF.

4. **RECORDING RESOLUTION:** Sets the Recording Resolution for events. To change the Resolution, press the ↑ and ↓ buttons to highlight, and press the ←→ buttons to change to either 720x240 or 360x240.

5. **SAVE & EXIT**: Saves any changes made, and exits to the Main Menu. Press the ↑ and ↓ buttons to highlight, and press the **SEL** button to accept the changes.

Normal Recording

Controls the settings for Manual Recording.



NOTE: The number of cameras displayed on submenus will change based on the Model of DVR: 4, 8 or 16 Cameras are available.

1. **CH1 - CH4**: Lists all available cameras for configuration. Press the ↑ and ↓ buttons to highlight, and press the ←→ buttons to select the FPS or Quality for each CH. Use the↑ and ↓ buttons to change the settings, and press **SEL** to accept the changes:

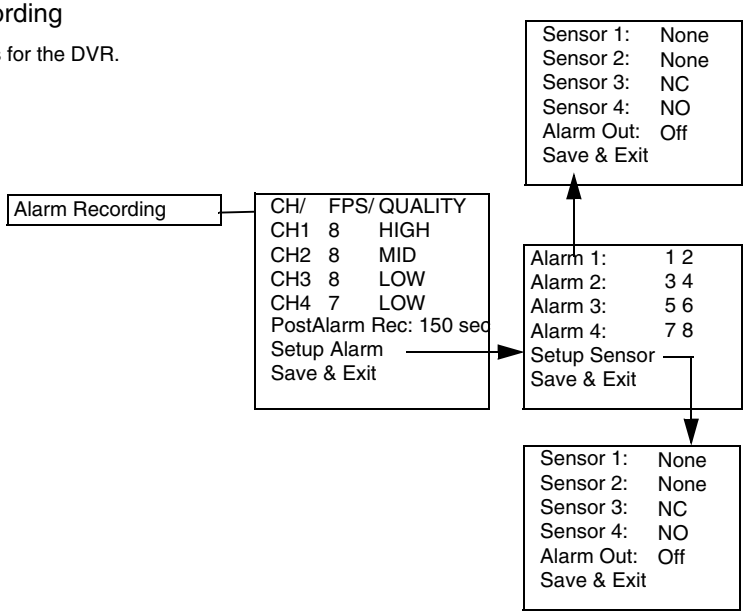
   - FPS: A set number of Frames Per Second (total) is divided between all available cameras based on Resolution settings.

   - QUALITY: Set the quality level for the recording - High, Mid or Low

2. **SAVE & EXIT**: Saves any changes made, and exits to the Main Menu. Press the ↑ and ↓ buttons to highlight, and press the **SEL** button to accept the changes.

Alarm Recording

Alarm Settings for the DVR.



NOTE: The number of cameras, alarms and sensors displayed on submenus will change based on the Model of DVR: 4, 8 or 16 Cameras are available.

1. **CH1-CH4:** Lists all available cameras for configuration. Press the ↑ and ↓ buttons to highlight, and press the **SEL** button to select the CH#. Use the ← and → and **SEL** buttons to change the FPS and Quality settings:

   • FPS: A set number of Frames Per Second (total) is divided between all available cameras based on Resolution settings.

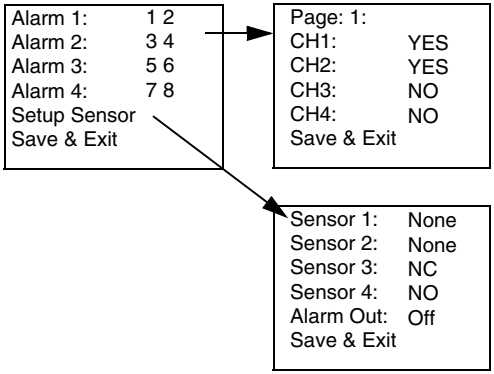
   • QUALITY: Set the quality level for the recording - High, Mid or Low.

2. **POST ALARM RECORDING:** Set the duration that the alarm will continue once detected: 5, 30, 60, 90, 120, 150, 180, 210 or 240 seconds.

3. **SETUP ALARM**: Configuration sub-menus for Alarm and Sensors. Press the ↑ and ↓ buttons to highlight, and press the **SEL** button to access the Alarm Submenu. Use the ← and → to choose the cameras to be associated to each alarm:

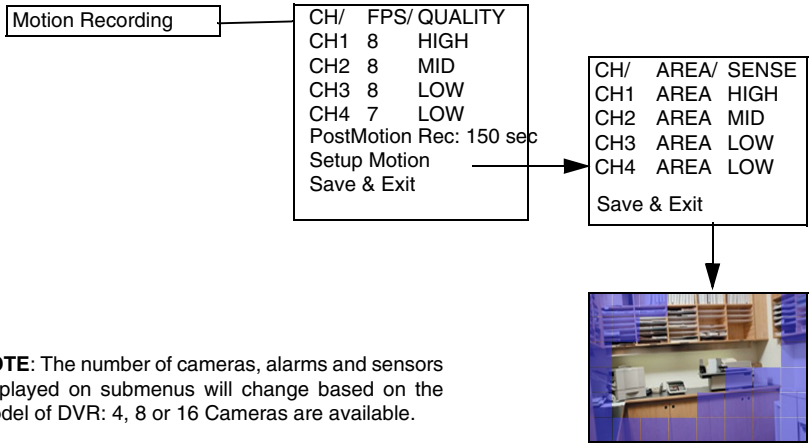
4. **SETUP SENSOR**: Configuration for any Sensors attached to the Alarm block. Press the ↑ and ↓ buttons to highlight, and press the **SEL** button to access the Sensor Submenu. Use the ← and → to set the Sensor type: NO (Normally Open), NC (Normally Closed) or None.

5. **SAVE & EXIT**: Saves any changes made, and exits to the Main Menu. Press the ↑ and ↓ buttons to highlight, and press the **SEL** button to accept the changes.



Motion Recording

Setup and configurations for Motion Sensor events.



NOTE: The number of cameras, alarms and sensors displayed on submenus will change based on the Model of DVR: 4, 8 or 16 Cameras are available.

Motion Recording

1. **CH1 - CH4**: Lists all available cameras for configuration. Press the ↑ and ↓ buttons to highlight, and press the ←→ buttons to select the FPS or Quality for each CH. Use the↑ and ↓ buttons to change the settings, and press **SEL** to accept the changes:

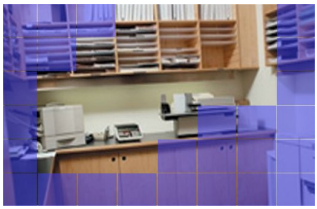
   • FPS: A set number of Frames Per Second (total) is divided between all available cameras based on Resolution settings.:

   • QUALITY: Set the quality level for the recording - High, Mid or Low.

2. **POST MOTION DURATION:** Set the duration that the alarm will continue once detected: 5, 30, 60, 90, 120, 150, 180, 210 or 240 seconds.

3. **SETUP MOTION**: Configuration for each Motion Sensor enabled Camera Press the ↑ and ↓ buttons to highlight the Setup Motion option, and press the **SEL** button to access the SETUP MOTION submenu. Press the ↑ and ↓ buttons to highlight a specific Camera, and press the **SEL** button to select.

   • **AREA**: Press the **SEL** button on the **AREA** option to specify segments of the Camera view to have Motion Detection. Use the ↑↓←→ buttons to navigate around the Motion Setup screen, and press the **SEL** button to turn a segment ON/OFF. Press the **MENU** button once complete. Dark Blue indicates that a section has been selected for motion detection, and blank areas indicate that motion will not be detected in those areas.

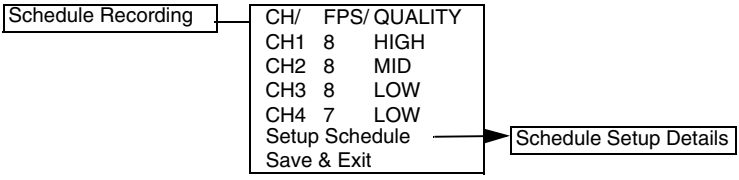
   

   • **SENSE**: Sets the Sensitivity of the Motion Detection: Use the ← and → and **SEL** buttons to change the setting to High, Mid or Low.

4. **SAVE & EXIT**: Saves any changes made, and exits to the Main Menu. Press the ↑ and ↓ buttons to highlight, and press the **SEL** button to accept the changes.

Schedule Recording

Setup and configurations for Scheduled events.



NOTE: The number of cameras, alarms and sensors displayed on submenus will change based on the Model of DVR: 4, 8 or 16 Cameras are available.

1. **CH1 - CH4**: Lists all available cameras for configuration. Press the ↑ and ↓ buttons to highlight, and press the ←→ buttons to select the FPS or Quality for each CH. Use the↑ and ↓ buttons to change the settings, and press **SEL** to accept the changes:

   • FPS: A set number of Frames Per Second (total) is divided between all available cameras based on Resolution settings.

   • QUALITY: Set the quality level for the recording - High, Mid, Low

2. **SETUP SCHEDULE:** Settings for scheduled recording times. Press the ↑ and ↓ buttons to highlight, and press the **SEL** button to access the Schedule Setup Submenu:

   • Use the ↑ and ↓ to choose a day (SUN-SAT) and **SEL** to set the schedule.

   • Use the ↑↓←→ buttons to set the recording Start Time and End Time

   • Select SAVE & EXIT to return to the Menu

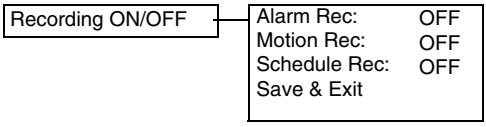
	FROM	TO
SUN	00:00	00:00
MON	00:00	00:00
TUE	00:00	00:00
WED	00:00	00:00
THU	00:00	00:00
FRI	00:00	00:00
SAT	00:00	00:00

Save & Exit

3. **SAVE & EXIT**: Saves any changes made, and exits to the Main Menu. Press the ↑ and ↓ buttons to highlight, and press the **SEL** button to accept the changes.

Recording ON/OFF

Controls the Recording for Event Types.



ALARM RECORDING: Turns Alarm Recording ON/OFF. Press the ↑ and ↓ buttons to highlight, and press the ←→ buttons to switch between ON and OFF.

MOTION RECORDING: Turns Motion Recording ON/OFF. Press the ↑ and ↓ buttons to highlight, and press the ←→ buttons to switch between ON and OFF.

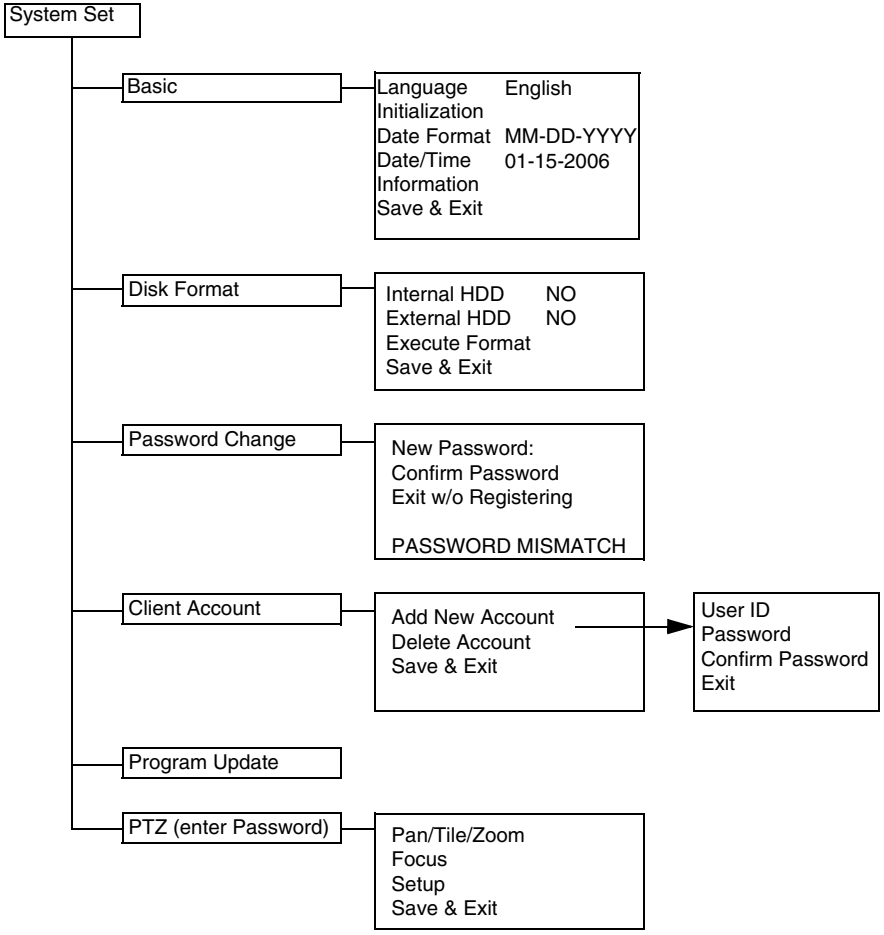
SCHEDULE RECORDING: Turns Schedule Recording ON/OFF. Press the ↑ and ↓ buttons to highlight, and press the ←→ buttons to switch between ON and OFF.

SAVE & EXIT: Saves any changes made, and exits to the Main Menu. Press the ↑ and ↓ buttons to highlight, and press the **SEL** button to accept the changes.

System Set

This submenu allows you to change the **SYSTEM** options for the DVR unit. Selecting options on this Menu will access additional settings and options.

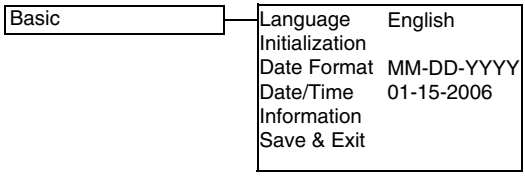
Recording Set Menu Tree



System Set

Basic

Settings for General Parameters.



1. **LANGUAGE**: Displays the current default language on the DVR (English). This option cannot be changed.
2. **INITIALIZATION:** Resets all settings to Factory Default. To change the setting, press the ↑ and ↓ buttons to highlight, and press the **SEL** button. A message will appear prompting for User input:

   All setup will be returned to Factory Default

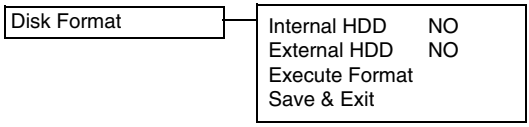
   - Press the Select key to continue
   - Press the Menu key to exit
3. **DATE FORMAT**: Configuration for the date display on the DVR. Press the ↑ and ↓ buttons to highlight, and press the ←→ to change the date format:
   - MM-DD-YYYY
   - DD-MM-YYYY
   - YYYY-MM-DD
4. **DATE/TIME:** Sets the Date and Time for the unit. Press the ↑ and ↓ buttons to highlight, and press the **SEL** key to enter the configuration. Press the ↑↓←→ buttons to change the date format.
5. **INFORMATION:** Displays System Information:

HDD Capacity:	## GB / ## GB
FPGA Version:	############
Application:	############
RAMDisk Version:	############
Kernel Version:	############
IP Address:	###.###.###.###
MAC Address	##:##:##:##:##:##

6. **SAVE & EXIT**: Saves any changes made, and exits to the Main Menu. Press the ↑ and ↓ buttons to highlight, and press the **SEL** button to accept the changes.

Disk Format

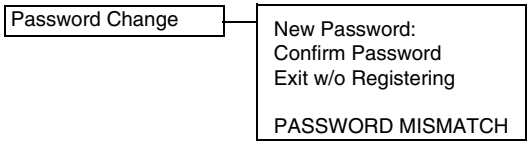
Displays Hard Drive information.



1. **INTERNAL HDD**: Allows the user to format the HDD. Use the ←→ to change this option to YES or NO. To format the Drive, set this option to YES and select the EXECUTE FORMAT option.
2. **EXTERNAL HDD:** Allows the user to format the External HDD. Use the ←→ to change this option to YES or NO. To format the Drive, set this option to YES and select the EXECUTE FORMAT option.
3. **EXECUTE FORMAT**: Allows the Hard Drive to be formatted. Press the ↑ and ↓ buttons to highlight, and press the **SEL** button to format. Enter the SYSTEM PASSWORD to star the Format process.
4. **SAVE & EXIT**: Saves any changes made, and exits to the Main Menu. Press the ↑ and ↓ buttons to highlight, and press the **SEL** button to accept the changes.

Password Change

Allows the user to change the default password. The existing password must be entered to access this screen.



1. **NEW PASSWORD**: Enter a new system password. Press the ↑ and ↓ buttons to highlight, and press the **SEL** button to set a new password. Use the NUMBER keys (0-9) on the front panel of the DVR to set the password of up to 8 characters.
2. **CONFIRM PASSWORD:** Enter the same password as set above. Press the ↑ and ↓ buttons to highlight, and press the **SEL** button to set a new password. Use the NUMBER keys (0-9) on the front panel of the DVR.
3. **EXIT WITHOUT REGISTERING**: Exits from the Password menu without changing the password.

NOTE: If the Password is not entered correctly on both the NEW and CONFIRM password sections, the message **PASSWORD MISMATCH** will appear at the bottom of the screen.

Client Account

Configuration for additional user accounts.

1. **ADD NEW ACCOUNT**: Add a new user account to the system. Press the ↑ and ↓ buttons to highlight, and press the **SEL** button to access the User Setup screen:

   • USER ID: Enter the user ID. Press the ↑↓←→ and Numbers (0-9) and Letters (A-Z, @ - _) on the front panel of the DVR to enter information.

   • PASSWORD: Enter a password. Press the ↑ and ↓ buttons to highlight, and press the **SEL** button to set a new password. Use the NUMBER keys (0-9) on the front panel of the DVR to set the password of up to 8 characters.

   • CONFIRM PASSWORD**:** Enter the same password as set above. Press the ↑ and ↓ buttons to highlight, and press the **SEL** button to set a new password. Use the NUMBER keys (0-9) on the front panel of the DVR.

   • EXIT: Exits without setting up an account.

2. **DELETE ACCOUNT:** Displays a list of accounts.Press the ↑ and ↓ buttons to highlight, and press the **SEL** button to access the User list. Select a user and press the **SEL** key to delete the account.

3. **SAVE & EXIT**: Saves any changes made, and exits to the Main Menu. Press the ↑ and ↓ buttons to highlight, and press the **SEL** button to accept the changes.

Program Update

Allows the user to update the DVR firmware by downloading the most current application from the Lorex website, and using a Memory Stick.

1. Download the most current program from the **http://www.lorexcctv.com** website, and copy it to a Memory Stick.

2. Connect the Memory Stick to the USB 2.0 Port on the front panel of the DVR.

3. Enter the Menu - System Set and choose Program Update:

   • NEW PROGRAM FOUND: If the new application is recognized, the DVR unit will display a processing percentage. Reboot the DVR once complete.

   • NEW PROGRAM NOT FOUND: If the application is not recognized, processing will not continue.

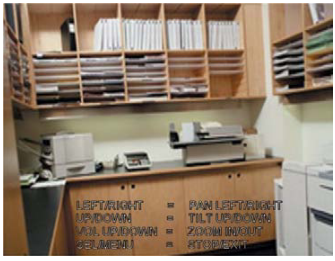
PTZ Menu

Pan / Tilt / Zoom control (for Pelco D or Pelco P Model Cameras only)

PTZ (enter Password)	Pan/Tilt/Zoom Focus Setup Save & Exit

1. **PAN / TILT / ZOOM**: Accesses the PTZ Control for a camera. Press the ↑ and ↓ buttons to highlight, and press the **SEL** button to access PTZ controls:

   - LEFT/RIGHT - Pans the camera LEFT/RIGHT
   - UP/DOWN - Tilts the camera UP/DOWN
   - VOL UP/DOWN - Zooms the camera IN/OUT
   - SEL/MENU - Stops viewing / Exits viewing



2. **FOCUS:** Accesses the Focus Control for a camera. Press the ↑ and ↓ buttons to highlight, and press the **SEL** button to access FOCUS controls:

   - LEFT/RIGHT - Pans the camera LEFT/RIGHT
   - UP/DOWN - Tilts the camera UP/DOWN

3. **SETUP**: Setup of the PTZ Cameras. Press the ↑ and ↓ buttons to highlight, and press the **SEL** button to enter the SETUP menu:

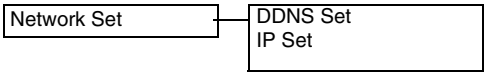
   - CHANNEL: Select the PTZ camera location (Channel 1-4, 1-8, or 1-16 depending on model)
   - ID: Set the camera ID to YES/NO
   - Protocol: Select the PTZ Protocol (PELCO-D or PELCO-P)
   - Baud Rate: Select the Baud Rate for the Camera (2400, 4800 or 9600 BPS)
   - SAVE & EXIT: Saves any changes, and exits to the previous menu.

Channel	1
ID	NO
Protocol	PELCO-D
Baud Rate	2400 BPS
Save & Exit	

4. **SAVE & EXIT**: Saves any changes made, and exits to the Main Menu. Press the ↑ and ↓ buttons to highlight, and press the **SEL** button to accept the changes.

Network Set

This submenu allows you to change the **NETWORK** options for the DVR unit. The options in the DDNS Set menu control access to the DVR using the free DDNS server, and the options in the IP Set section control local network settings for local access to the DVR.



DDNS Set

The options in the DDNS Set menu allow the DVR unit to be accessed remotely using the Free DDNS Server and the internet. All information will need to be manually entered based on information from the free DDNS Setup (see page 48 for details).Set the USE DYNAMIC IP option to YES if you will be using the Free DNS Website service to connect to your DVR.

- **DDNS**: Press the ↑ and ↓ buttons to highlight, and press the **SEL** button to set to NO/YES.
- **DOMAIN NAME**: Press the ↑ and ↓ buttons to highlight, and press the **SEL** button to set to enter setup. Use the Numbers and Letters on the front panel of the DVR to set the Domain Name.

DDNS:	YES
Domain Name:	########
User Name:	########
Password:	########
DDNS Status Check	
Save & Exit	

- **USER NAME**: Press the ↑ and ↓ buttons to highlight, and press the **SEL** button to set to enter setup. Use the Numbers and Letters on the front panel of the DVR to set the Domain Name.
- **PASSWORD**: Press the ↑ and ↓ buttons to highlight, and press the **SEL** button to set to enter setup. Use the Numbers and Letters on the front panel of the DVR to set the Domain Name.
- **DNS STATUS CHECK**: Connects to the remote DNS Server to check the Status. Press the ↑ and ↓ buttons to highlight, and press the **SEL** button to test the connection:
  - Checking DDNS NOW. Please wait... it may take a few minutes
  - A Status message will appear indicating a PASS or FAIL on the connection:
  - DDNS Status Check: PASS / FAIL
- **SAVE & EXIT**: Saves any changes made, and exits to the Main Menu. Press the ↑ and ↓ buttons to highlight, and press the **SEL** button to accept the changes.

IP Set

The options in the IP Set menu control the local network setup for the Unit. See page 45 for additional network setup instructions.

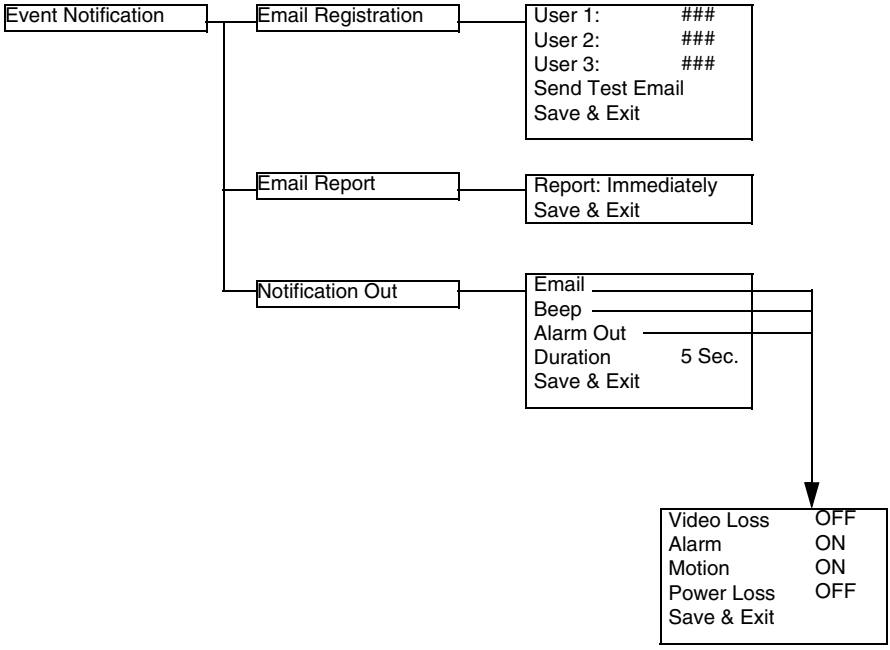
DHCP:	NO
IP Address:	###.###.###.###
Gateway:	###.###.###.###
Netmask:	###.###.###.###
DNS Server:	###.###.###.###
DVR Port:	2000
Webserver Port:	0080
Save & Exit	

- **DHCP**: Press the ↑ and ↓ buttons to highlight, and press the ←→ buttons to set to NO/YES. Set this option to YES to allow the unit to get Network information from the Router; set this option to NO if information will be manually assigned to the DVR unit.
- **IP ADDRESS**: Press the ↑ and ↓ buttons to highlight, and press the **SEL** button to enter setup. Use the Numbers on the front panel of the DVR to set the IP address.
- **GATEWAY**: Press the ↑ and ↓ buttons to highlight, and press the **SEL** button to set to enter setup. Use the Numbers on the front panel of the DVR to set the Gateway address.
- **NETMASK**: Press the ↑ and ↓ buttons to highlight, and press the **SEL** button to set to enter setup. Use the Numbers on the front panel of the DVR to set the Net Mask.
- **DNS SERVER**: Press the ↑ and ↓ buttons to highlight, and press the **SEL** button to enter setup. Use the Numbers on the front panel of the DVR to set the DNS Server address.
- **DVR PORT**: Press the ↑ and ↓ buttons to highlight, and press the **SEL** button to enter setup. Use the Numbers on the front panel of the DVR to set the DVR Port to **2000**.
- **WEBSERVER PORT**: Press the ↑ and ↓ buttons to highlight, and press the **SEL** button to enter setup. Use the Numbers on the front panel of the DVR to set the Webserver Port to **0080**.
- **SAVE & EXIT**: Saves any changes made, and exits to the Main Menu. Press the ↑ and ↓ buttons to highlight, and press the **SEL** button to accept the changes.

Event Notification

This submenu allows you to change the **NETWORK** options for the DVR unit. The options will change based on the DYNAMIC IP being set to NO or YES.

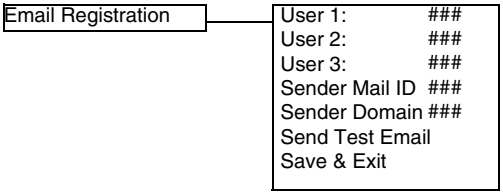
Event Notification Menu Tree



Event Notification

Email Registration

Configuration settings for automatic emailing of events.



1. **USER 1 - USER 3**: Setup of up to 3 email accounts to receive event emails. Press the ↑ and ↓ buttons to highlight, and press the **SEL** key to enter the configuration. Press the ↑↓←→ buttons and Letters (A-Z), Numbers(0-9) and Symbols (@ - _) located on the front of the DVR to enter the Email address.

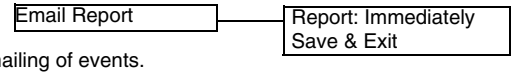
2. **SENDER MAIL ID**: Setup for the sending mail account. Press the ↑ and ↓ buttons to highlight, and press the **SEL** key to enter the configuration. Press the ↑↓←→ buttons and Letters (A-Z), Numbers(0-9) and Symbols (@ - _) located on the front of the DVR to enter the Email address.

3. **SENDER DOMAIN**: Setup of the Email Domain server details.Press the ↑ and ↓ buttons to highlight, and press the **SEL** key to enter the configuration. Press the ↑↓←→ buttons and Letters (A-Z), Numbers(0-9) and Symbols (@ - _) located on the front of the DVR to enter the Sender Domain.

4. **SEND TEST EMAIL:** Sends a test email to all configured Email addresses. To send a test email, press the ↑ and ↓ buttons to highlight, and press the **SEL** button.

5. **SAVE & EXIT**: Saves any changes made, and exits to the Main Menu. Press the ↑ and ↓ buttons to highlight, and press the **SEL** button to accept the changes.

Email Report



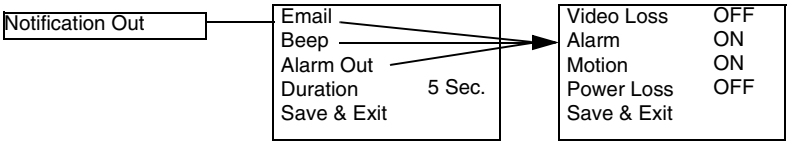
Configuration settings for automatic emailing of events.

1. **REPORT**: Specify when an email alert should be sent. Press the ↑ and ↓ buttons to highlight, and press the ←→ buttons to set to Immediately, Daily or Weekly.

2. **SAVE & EXIT**: Saves any changes made, and exits to the Main Menu. Press the ↑ and ↓ buttons to highlight, and press the **SEL** button to accept the changes.

Notification Out

Configuration settings for Notifications.



1. **EMAIL**: Specifies an event type to be sent as an automatically generated email. Press the ↑ and ↓ buttons to highlight, and press the **SEL** key to enter the Email submenu:

   - VIDEO LOSS: Sets the Video Loss Event send to ON/OFF
   - ALARM: Sets the Alarm Event send to ON/OFF
   - MOTION: Sets the Motion Event send to ON/OFF
   - POWER LOSS: Sets the Power Loss Event send to ON/OFF
   - SAVE & EXIT: Saves any changes made, and exits to the Main Menu. Press the ↑ and ↓ buttons to highlight, and press the **SEL** button to accept the changes.

2. **BEEP**: Turns the audible alerts ON/OFF when an event is detected. Press the ↑ and ↓ buttons to highlight, and press the **SEL** key to enter the Beep submenu. Options within this menu are the same as the EMAIL SUBMENU above.

3. **ALARM OUT**: Turns the alarm out to ON or OFF when an event is detected. Press the ↑ and ↓ buttons to highlight, and press the **SEL** key to enter the Alarm out submenu. Options within this menu are the same as the EMAIL SUBMENU above.

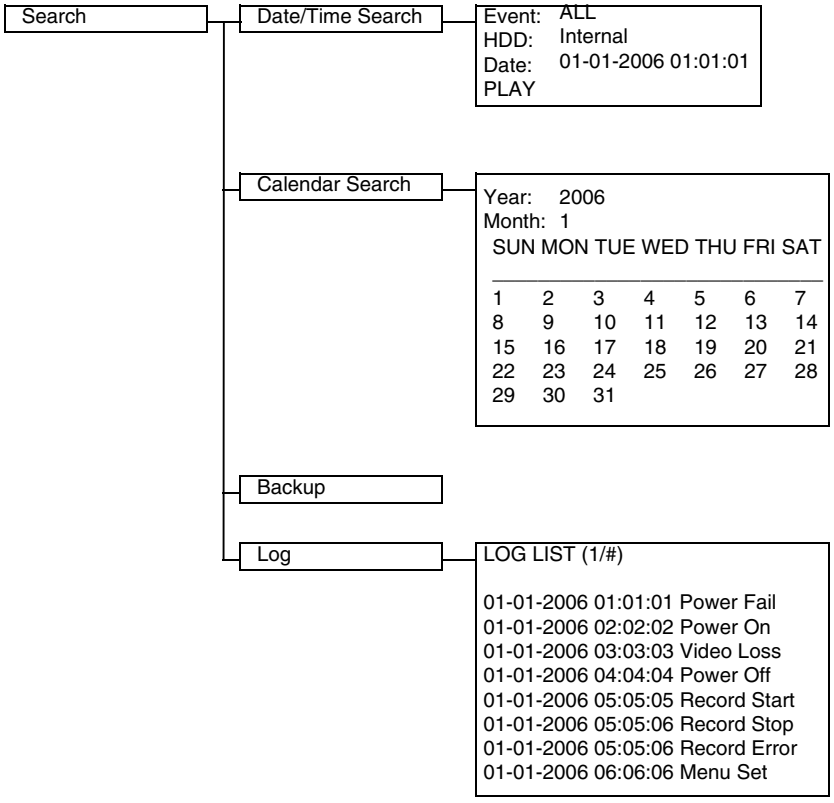
4. **DURATION**: Specifies the length of time for an event. Press the ↑ and ↓ buttons to highlight, and press the ←→ buttons to change the duration to 5 seconds, 10 seconds or 20 seconds.

5. **SAVE & EXIT**: Saves any changes made, and exits to the Main Menu. Press the ↑ and ↓ buttons to highlight, and press the **SEL** button to accept the changes.

Event Search Function

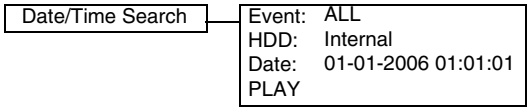
The Event Search function is used to locate previously recorded events (Motion, Sensor or Manual Event recording), and to view a list of logged system events.

Press the SEARCH button located on the front panel of the DVR to access the Event Search Menu.



Date / Time Search

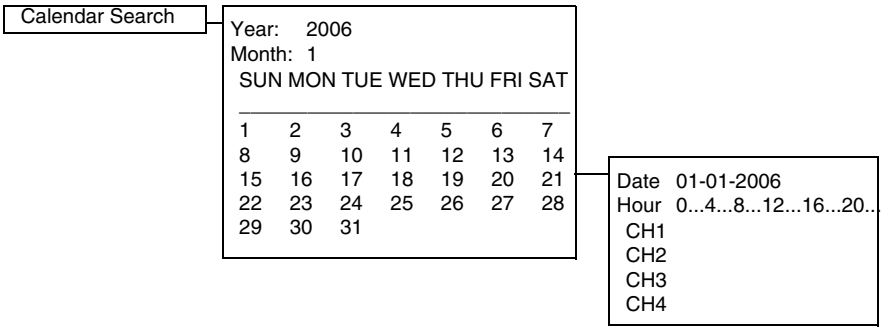
Search and play previously recorded events by Date, Time and Event type.



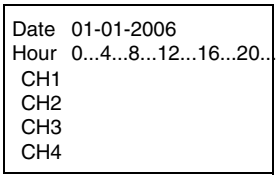
1. **EVENT**: Select an event type - Alarm, Motion or All. Press the ↑ and ↓ buttons to highlight, and press ←→ buttons to select an event type.
2. **HDD:** Select a Hard Drive (if multiple drives are available). Press the ↑ and ↓ buttons to highlight, and press ←→ buttons to select a Hard Drive type.
3. **DATE**: Select a date to search. Press the ↑ and ↓ buttons to highlight, and press the number pad keys on the front of the DVR to set the Date and Time.
4. **PLAY:** Plays a selected event. Press the ↑ and ↓ buttons to highlight, and press the **SEL** button to play.

Calendar Search

Search and play previously recorded events in Calendar format.



1. **YEAR**: Select the Year. Press the ↑ and ↓ buttons to highlight, and press ←→ buttons to select a year.
2. **MONTH:** Select the Month. Press the ↑ and ↓ buttons to highlight, and press ←→ buttons to select a month.
3. **DATE**: Select a date to search. Press the ←→↑ and ↓ buttons to select a Day from the Calendar, and press the SEL button to access the Date Submenu.



External USB Connection

A USB Memory Stick can be connected to the front panel of the DVR, and is used as a backup device or to upgrade the Firmware on the DVR.

Backup to USB

Once the USB Memory Stick is connected to the DVR, access the Backup Menu from the Search Function.

1. Press the Search Button on the front panel of the DVR. Select the Backup option to access the Backup Menu.

    • Backup Device: Indicates the detected device is a FLASH Memory Stick

NOTE: If a DVD/RW is installed in the system, there will be an option to Backup to this device as well as to the Flash Memory Stick.

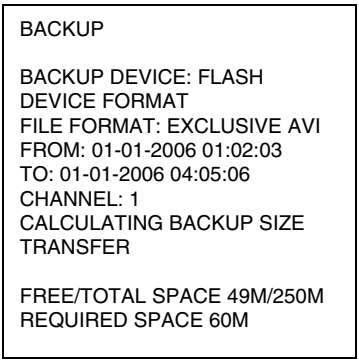
    • Device Format - Clears all data from the FLASH Memory Stick

    • File Format - Set to EXCLUSIVE or AVI. EXCLUSIVE is the proprietary format of the DVR unit, where AVI can be played through WIndows Media Player.

    • FROM / TO - Specify the date range for backup

    • CHANNEL - Select an individual Channel (1-16 depending on the DVR model) to backup to the Memory Stick (in AVI Format). If the File Format is set to Exclusive, all channels will be backed up.

    • Transfer - Sends the data to the memory stick



NOTE: The Memory Stick should be Formatted on a PC prior to copying data from the DVR Unit.

2. Press the Search Button to exit the Backup mode.

Updating the DVR Firmware

Occasionally, updates to the DVR firmware become available on our website. These updates can be installed on your DVR unit using the USB Memory Stick.

1. Download the most current program from the **http://www.lorexcctv.com** website, and copy it to a Memory Stick. Compatibility has been successfully tested with the Lexar Jumpdrive 128/256 MB, Sandisk Mini Cruzer 128 MB and Cruzer Micro 256MB.
2. Connect the Memory Stick to the USB 2.0 Port on the front panel of the DVR.
3. Enter the Menu by pressing the MENU button on the front panel of the DVR.
   - Select the System Set Option, and choose Program Update
   - NEW PROGRAM FOUND: If the new application is recognized, the DVR unit will display a processing percentage. Reboot the DVR once complete.
   - NEW PROGRAM NOT FOUND: If the application is not recognized, processing will not continue.

Compatible USB Devices

The following USB devices have been tested successfully with the L400 Series DVR:

- Lexar Jumpdrive 128/256 MB
- SanDisk Mini Cruzer 128 MB
- SanDisk Cruzer Micro 256 MB

Network Connectivity

The DVR unit can be controlled using your existing network and a PC. The DVR Unit can be controlled from within your network, or can also be controlled remotely through the Internet.

1. Connect the DVR to the Router Power the Observation unit on.

NOTE: It is recommended that the DVR be connected to the router prior to powering on the system.

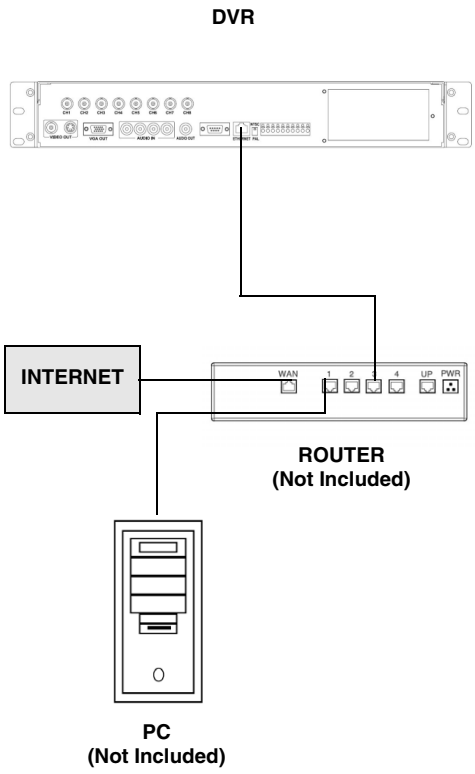
The DVR can be automatically assigned an IP address by the router (and other network related settings), or an IP address can be manually assigned within the MENU - NETWORK setup on Page #.

2. Enable **PORT FORWARDING** on your Router. Refer to the instructions on Page 37 for details.

3. Set up a web account at **http://DDNS.strategicvista.net**. Refer to Pages # for setup and configuration instructions.

4. Access the DVR Software with either a Local PC or Remote PC using Microsoft Internet Explorer 5 (or higher). See Pages # for details.

NOTE: Microsoft IE is the ONLY supported browser at this time.



DVR Network Settings

Network Related settings for the DVR unit are set through the Menu options. See Page 36 for IP Set Menu options.

1. Press the Menu button on the front panel of the DVR. Select the Network Set option, and select the IP Set option.

   - Set the DHCP option to either YES or NO. Setting the option to YES will let the unit get Network information from the router, and setting the option to NO will allow the user to set this information manually.
   - Setup the IP Address, Gateway and NetMask manually, or allow the DVR to retrieve these settings from the Router.
   - Set the DVR PORT to 2000 (or any other port desired between 2001 ~ 65535 that is not currently in use).

DHCP:	NO
IP Address:	###.###.###.###
Gateway:	###.###.###.###
Netmask:	###.###.###.###
DNS Server:	###.###.###.###
DVR Port:	2000
Webserver Port:	0080
Save & Exit	

   - Set the WEBSERVER PORT to 80 (or any other port desired between 2001 ~ 65535 that is not currently in use). If you use a port other than 80, you will need to include this port number when accessing your DVR through Internet Explorer.

     For example, if the DVR IP Address is 192.168.0.150, and the Webserver Port is set to 2005, use the following address on the Internet Explorer browser to access the DVR:

     - http://192.168.0.150:2005
     -

     NOTE: The Ports specified above will need to be forwarded in the Router Settings.

2. Select SAVE & EXIT to save the changes.

Finding Your External IP Address

You will need to have your External IP address to set up your **DDNS** account. One of the fastest ways to find this information is to use a 3rd Party website such as **http://www.showmyip.com**

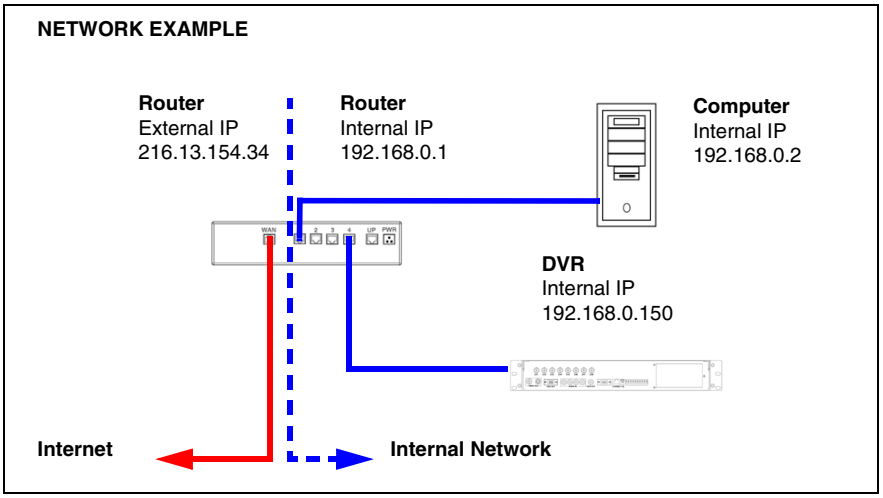
Your IP address can also be found within your Router settings.

Router Port Forwarding

You will need to enable port forwarding on your Router to allow for external communications with your DVR. The following ports will need to be forwarded to remotely connect to your DVR:

- DVR PORT: 2000 (or any other port you selected to use during setup)
- WEBSERVER PORT: 80 (or any other port you selected to use during setup)

Computers, DVRs, and other devices inside your network can only communicate directly with each other within the internal network. Computers and systems outside your network cannot directly communicate with these devices. When a system on the internal network needs to send or receive information from a system outside the network (i.e. from the Internet), the information is sent to the Router.



When a computer on the Internet needs to send data to your internal network, it sends this data to the external IP address of the Router. The Router then needs to decide where this data is to be sent to. This is where setting up Port Forwarding becomes important.

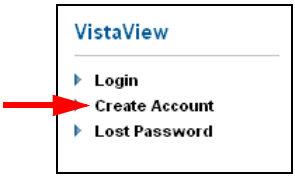
Port Forwarding tells the router which device on the internal network to send the data to. When you set up port forwarding on your Router, it takes the data from the external IP address:port number and sends that data to an internal IP address:port number (i.e **Router External IP 216.13.154.34:2000 to DVR Internal IP 192.168.0.3:2000**).

The instructions found online in the **Router Configuration Guide** will assist you in the port forwarding configurations for a selection of different router models.Visit our **Consumer Guides Support** website at **http://www.lorexcctv.com** for more details

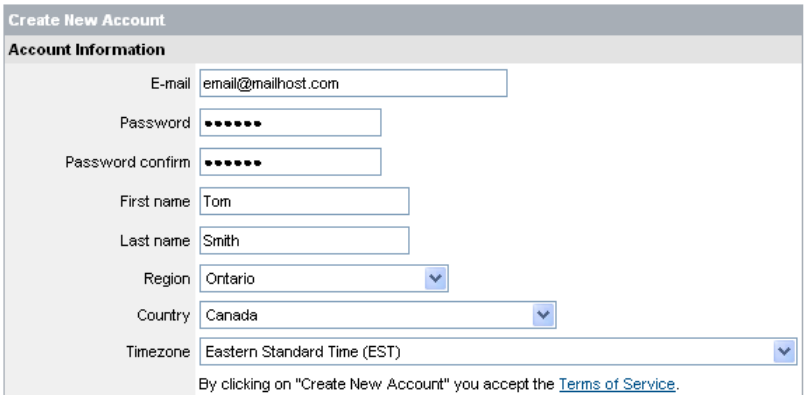
Setting Up Your DDNS Account

Lorex offers a free DDNS server for use with your System. A DDNS account allows you to set up a web site address that points back to your Local Network. The following outlines how to set up your free DNS account.

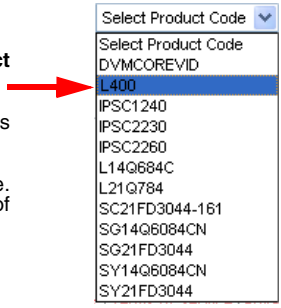
1. Navigate to **http://DDNS.strategicvista.net**
2. Select the **Create Account** option from the list on the left side of the screen.



3. Complete the **Account Information** fields with your personal information



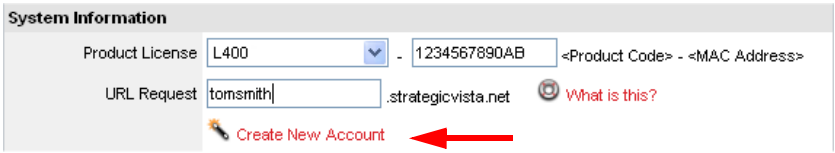
4. Complete the **System Information** fields as follows:



- **Product License**: Select your product model from the **Product License** drop down menu
- **<Product Code> - <MAC Address>**: Locate the MAC address of your (recorded while loading the System)
- **URL Request**: Choose a **URL** for your **DDNS** connection (i.e. your name, your company or business name, or anything of your choice.)

NOTE: The URL request must not exceed 8 CHARACTERS

5. Click the **Create New Account** link at the bottom of the form to submit your request.



6. Your **Account** information will be sent to you at the **E-mail Address** you used in **Step 3**.

Service provider:	dns1.strategicvista.net
Domain name:	tomsmith.strategicvista.net
User name:	tomsmith1
Password:	<leave this field blank>

You will need this information for remote access to your System. Record ***YOUR*** information below:

Service Provider: _____

Domain Name: _____

User Name: _____

Password: _____

NOTE: The information sent to you in E-mail is **CASE SENSITIVE**. It is important when setting up your **DDNS** information on your DVR.

Setting up DDNS on the DVR

Once the DDNS Account has been configured (and the account details received in Email), then these settings can be added to the DVR unit. See the DDNS Set menu options on Page 35 for further details.

1. Press the Menu button on the front panel of the DVR. Select the Network Set option, and select the DDNS Set option.

   - Set DDNS to YES (if using remote access to the DVR. Otherwise, leave this option as NO).
   - Setup the Domain Name, User Name and Password manually, based on the settings received in email.
   - Select the DDNS Status Check to confirm that the DDNS Service can be reached.

DDNS:	YES
Domain Name:	########
User Name:	########
Password:	########
DDNS Status Check	
Save & Exit	

2. Select SAVE & EXIT to save the changes.

Accessing the DVR Locally / Remotely with a PC

Once the DVR and Network have been successfully configured, a connection can be made with a Local PC (a PC within the same network as the DVR), or remotely (a PC from outside the network via the Internet) using Microsoft Internet Explorer:

Local: Use the internal network IP address and web server port number. For Example:

- http://192.168.0.150:2000

Remote: Use either the external IP address or the DDNS name, as well as the Web Server port. For Example:

- http://216.15.59.221:2000
- http://tomsmith.strategicvista.net:2000

Internet Explorer Settings - Active X Controls

To correctly load the Web Client Software, the security settings in Internet Explorer may need to be adjusted:

1. Open Internet Explorer. Click TOOLS and select INTERNET OPTIONS.

2. Select the SECURITY tab, and click the CUSTOM LEVEL button. Change the following settings:

- Active X Controls and Plug-ins:
    - Set ‘Automatic Prompting for Active X Controls’ to Disable
    - Set ‘Download Unsigned Active X Controls’ to Prompt

- Miscellaneous:
    - Set ‘Allow script-initiated windows without size or position constraints’ to Enable

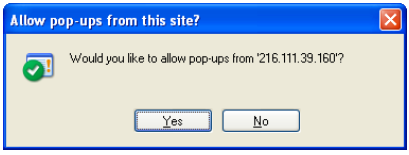
3. Click on APPLY and OK to close the INTERNET OPTIONS window.

Internet Explorer Settings - Allowing Pop-Ups

The Web based client software requires the use of Pop-Ups in Internet Explorer. Once the address has been entered into the Address bar, an alert may appear indicating that a Pop-Up window has been blocked:

1. Click on the Pop-Up warning on the Internet Explorer Window to access the Pop-Ups drop down menu
2. Select 'Always Allow Pop-ups from This Site'
3. A prompt window will appear to Allow the Pop-Up from this site. Select YES.

Pop-up blocked. To see this pop-up or additional options click here...
Temporarily Allow Pop-ups
Always Allow Pop-ups from This Site...
Settings
Information Bar Help

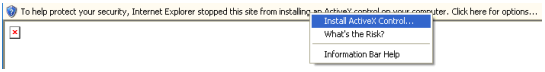


NOTE: If you have a Pop-Up blocker installed, you may need to disable it prior to loading the Web Client Software.

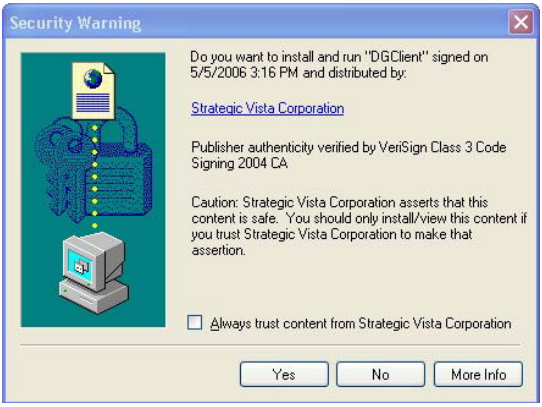
Internet Explorer Settings - Installing the Active-X Controls

The Web based client software requires the use of Active-X Controls:

1. Click on the Security warning on the Internet Explorer Window to access the Security drop down menu
2. Select 'Install Active X Control'



3. A Security prompt window will appear to Install and Run the 'DG Client'. Select YES


Security Warning
Do you want to install and run "DGClient" signed on 5/5/2006 3:16 PM and distributed by:
Strategic Vista Corporation
Publisher authenticity verified by VeriSign Class 3 Code Signing 2004 CA
Caution: Strategic Vista Corporation asserts that this content is safe. You should only install/view this content if you trust Strategic Vista Corporation to make that assertion.
Always trust content from Strategic Vista Corporation
Yes
No
More Info

Web Client Software

Minimum System Requirements:

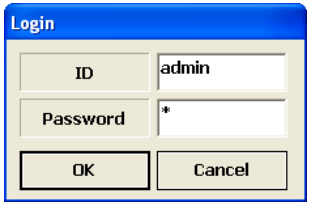
The minimum requirements are the same for the 4, 8 and 16 channel models.

- Operating System: Windows XP Home or Professional
- CPU: Pentium 4 1.7GHZ or equivalent
- Memory: 512 MB or greater
- Hard Drive Space: Minimum of 30 MB Install Space. Additional hard drive space is required for saving DVR data to the local PC.

Logging Into Live Monitoring

Once the Web Client application has loaded through Internet Explorer, a pop-up window will appear. Log in as:

- Username: admin
- Password: 00000000 (may be different if the default system password on your DVR was changed)



The Web Client software will load once the Login has been completed successfully. Failure to login correctly will close the Web Client window.

Web Client - Main Window

NOTE: Third party Internet Explorer toolbars (such as Google or Yahoo toolbars) may interfere with screen display. Please disable or uninstall these toolbars prior to use.

1. **Channels Window** - Displays Active Cameras. Inactive cameras or unavailable channels will be displayed in blue.
2. **Detail Tabs** - Displays system information (Logs, Events, System Info. and Status).
3. **Remote/Local Controls** - Controls the playback of events at the remote or local level.
4. **Save Controls** - Saves images and recordings to the local PC.
5. **Live -** Indicates whether the currently displayed images are Live or previously recorded.
6. **Disconnect** - Exits the Web Client Software.
7. **Pan/Tilt/Zoom** - Controls for Pan/Tilt/Zoom enabled cameras.
8. **Display Options** - Changes the view of the currently displayed cameras (1, 4, 8, 9 or 16).
9. **Connect Button** - Reconnect to the DVR (if the connection is lost).
10. **Setup** - Controls features for the Remote DVR or Local PC, and Firmware Updates
11. **Channel Buttons** - Displays individual channels.
12. **Date / Time** - Displays the Date and Time of the local PC.

Channels Window

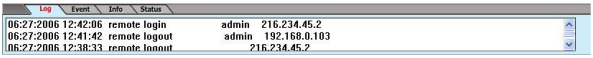
Displays all Active Cameras. Inactive cameras or unavailable channels will be displayed in blue. An individual camera can be loaded into full screen mode by double clicking on a selected channel.

NOTE: Windows can be dragged-and-dropped anywhere within the Multi-view screen mode.

Detail Tabs

Displays system information:

1. **Log** - Shows login, logout and connection details.



2. **Event** - Displays camera event messages: Motion, Alarm, Sensor and Video Loss.

NOTE: Double clicking on a MOTION event will display a list of all events, and double clicking on an event will start the playback of the previously recorded video.

3. **Info** - Displays system information retrieved from the DVR.

4. **Status** - Indicates the status of the DVR and Cameras.

Remote/Local Controls

Controls the playback of events at the remote or local level.

1. **System** - Indicates that Remote DVR is the current Client. All buttons are controlling the remote DVR.
2. **Local** - Indicates that the Local PC is the current Client. All buttons are controlling functions on the local PC.
3. **Volume** - Controls the volume of the DVR unit.

Remote/Local Controls

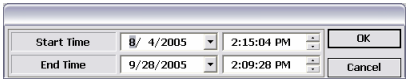
System

1. **Playback Buttons** - Controls the recording and playback of cameras at the Remote DVR. All recording takes place on the DVR, and playback is retrieved from the DVR to the local PC.

2. **Recording** - Pressing the REC Button starts recording on the remote DVR, and pressing the REC button a second time stops the recording. The system password will need to be provided to stop the Recording.

3. **Playback** - Plays back previously recorded events from the DVR.

   • Pressing the PLAY Button opens the Event Search window. Select a Start Time and End Time, and click OK.



   • Select an event from the Playback list, and click the START button to begin the playback.

   • Once the playback begins on the Web Client, additional control buttons become act

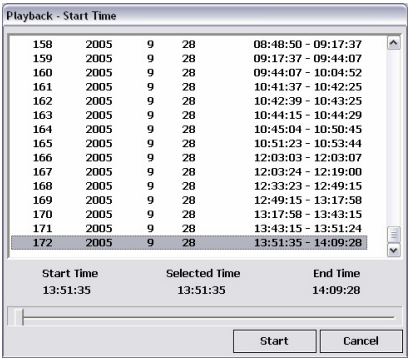
STEP BACK

REVERSE

PAUSE

STOP

STEP FORWARD



Remote/Local Controls

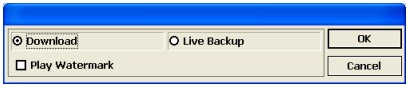
Local

1. **Playback Buttons** - Controls the recording and playback of Remote cameras to the Local PC. All recording and playback takes place on the PC.

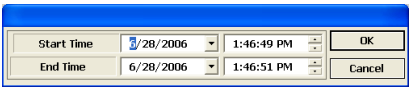
2. **Recording** - Pressing the REC Button starts recording from the remote DVR to the local PC.

3. **Playback** - Plays back previously recorded events (recorded to the PC).

   • Pressing the PLAY Button opens the Event Search window. Select options (Download or Live Backup) and press OK.

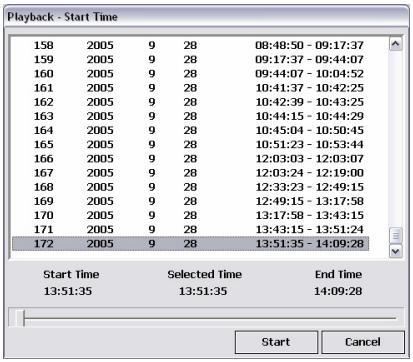


   • Select a Start and End Time, and press OK



   • Select and Event from the list, and press Start

   • Once the playback begins on the Web Client, additional control buttons become act



STEP BACK

REVERSE

PAUSE

STOP

STEP FORWARD

Save Controls

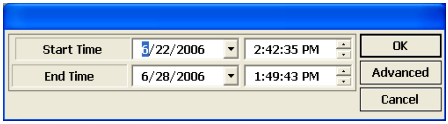
Saves images and recordings to the local PC.

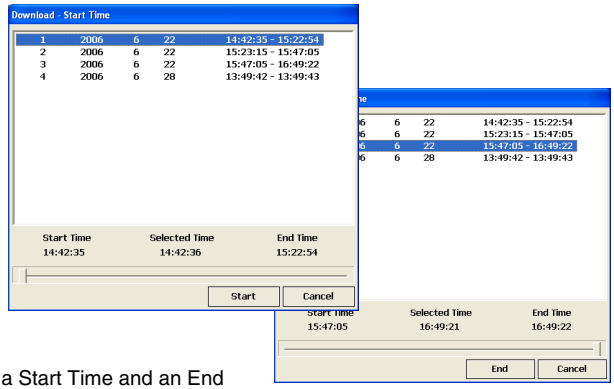
Download

Save

View Saved Images

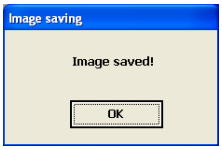
1. **Download** - Retrieves previously recorded data from the DVR Hard Drive, and makes a local PC copy. After the Download button has been selected, a Start / End Time selection window appears to select a date and time range for download. Options within the Advanced options allow for specific channels to be retrieved (all channels are retrieved by default).





Choose a Start Time and an End time to retrieve. The data will be downloaded to the C:\DGClient\Download directory.

2. **Save** - Saves an copy of the onscreen images to JPG to the C:\DGClient\Saved directory. A window will appear once the successful copying has been completed.



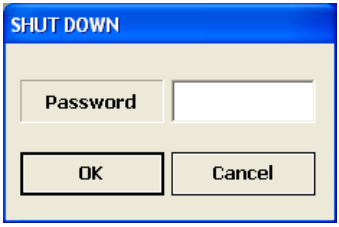
3. **View Saved Images** - Opens the directory listing of all saved JPG images. Double clicking on an Image file will open the file in the Web Client.

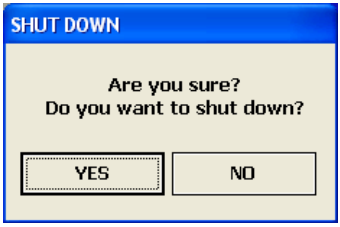
Live

Indicates whether the currently displayed images are Live or previously recorded.

Disconnect

Clicking on the QUIT button will exit the Web Client Software. A prompt will appear to provide the password, and a confirmation window will appear. Clicking YES will exit the software.





Pan/Tilt/Zoom

Controls for Pan/Tilt/Zoom enabled cameras.

- Pan/Tilt/Zoom/Focus/OSD Controls
- Panning Controls (Left, Right, Up and Down)
- Alert Indicators (Alarm, Motion and Video Loss)
- Reset all Events

1. **Pan/Tilt** - Controls the Pan and Tilt of PTZ enabled cameras (not available on the 4 channel model).
2. **Zoom/Focus** - Controls the Zoom and Focus of PTZ enabled cameras (not available on the 4 channel model).
3. **OSD** - Turns the On Screen Display of Channel details ON/OFF

Display Options

Changes the view of the currently displayed cameras (Full, 4, 8, 9 or 16 Camera Display).

Connect Button

Reconnects to the DVR (if the connection is lost). Clicking on the Connect button will open the Login screen to enter the Username and Password.

Setup

Controls features for the Remote DVR or Local PC

1. **Remote Setup** - Setup and Configuration on the remote DVR
2. **Local Setup** - Setup and Configuration on the local Web Client
3. **Firmware Upgrade** - Use the local PC Web Client to update the Remote DVR Firmware.

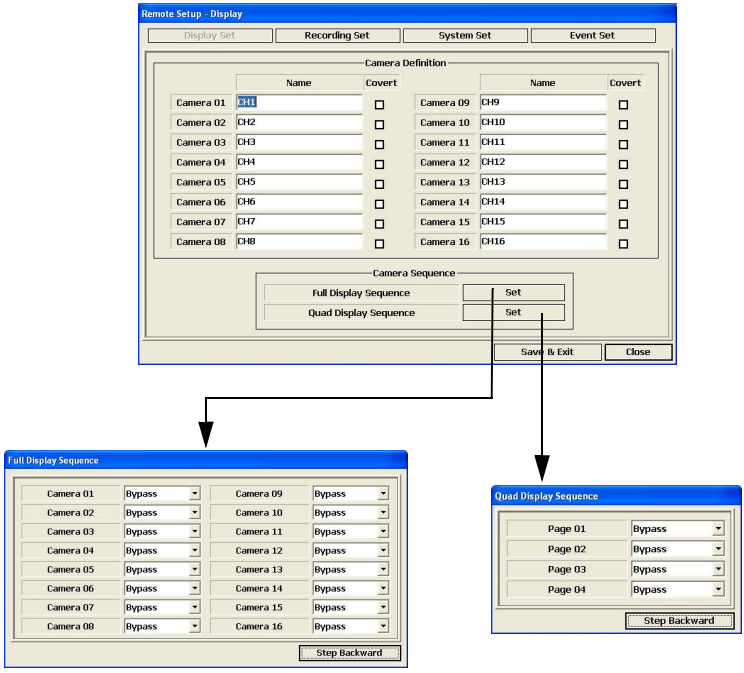
Remote Setup

Changes made to the Remote Setup will adjust the settings on the Remote DVR. The setup controls 4 different aspects of the DVR:

- Display Setup
- Recording Setup
- System Setup
- Event Setup

1. Display Setup

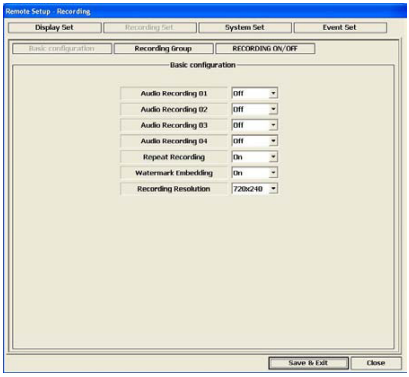
- **Camera Definition** - Assign names to all detected Cameras
- **Full Display Sequence Submenu** - Configures the display sequence for all available cameras. Any camera set to Bypass will not be displayed in DVR Sequencing mode.
- **QUAD Display Sequence Submenu** - Configures the QUAD display sequence for all available cameras. Any page (contains 4 cameras) set to Bypass will not be displayed in DVR QUAD Sequencing mode



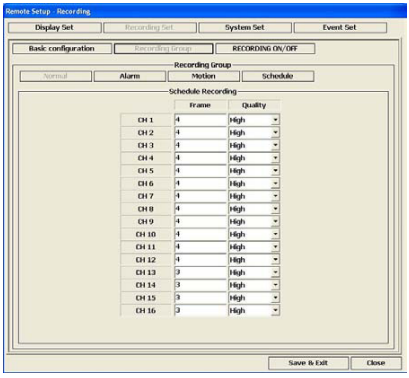
2. Recording Setup

The Recording Set option controls 3 subgroups - Basic Configuration, Recording Group and Recording ON/OFF.

- **Basic Configuration** - Controls some of the basic functions of the DVR:
  - Audio Recording: Turns the recording for audio channels ON or OFF.
  - Repeat Recording: Sets recording repeat to ON or OFF.
  - Watermark Embedding: Embeds a watermark into the recording. Set to ON or OFF.
  - Recording Resolution: Changes the recording Resolution.

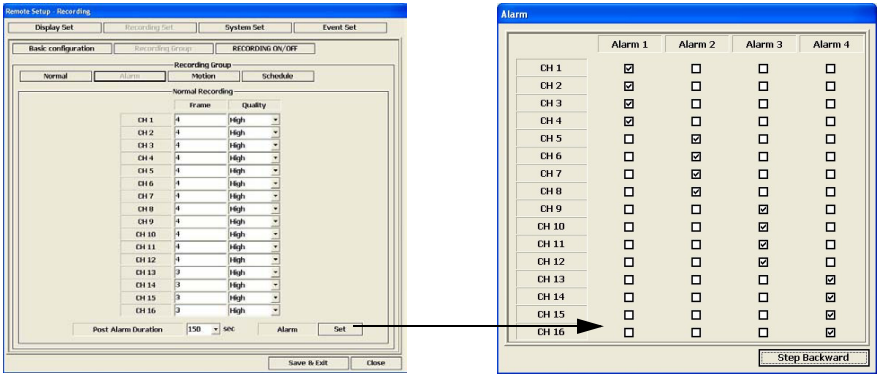


- **Recording Group** - Controls 4 subgroups - Normal, Alarm, Motion and Schedule.
  - Normal Page: Configures the number of FPS (Frames per Second) and sets the Recording Quality for all available Cameras



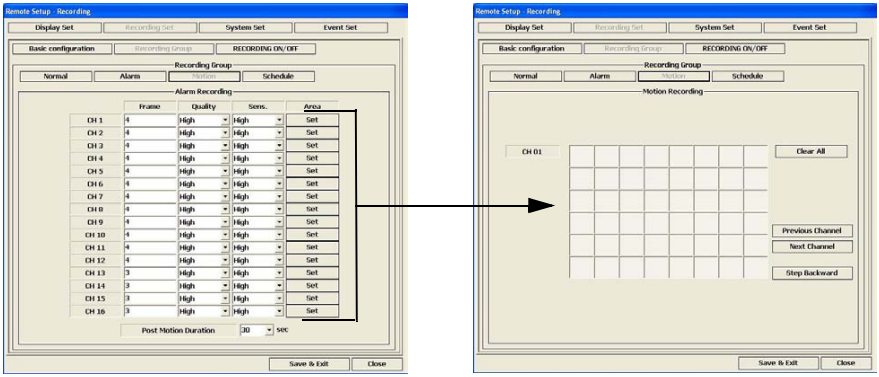
- Alarm Page: Configures the number of FPS (Frames per Second) and sets the Recording Quality for all available Cameras. The Alarm Duration (in seconds) can also be set to a maximum of 150 Seconds.

  Use the SET Menu Button to turn Alarm Recording ON or OFF for each available camera.



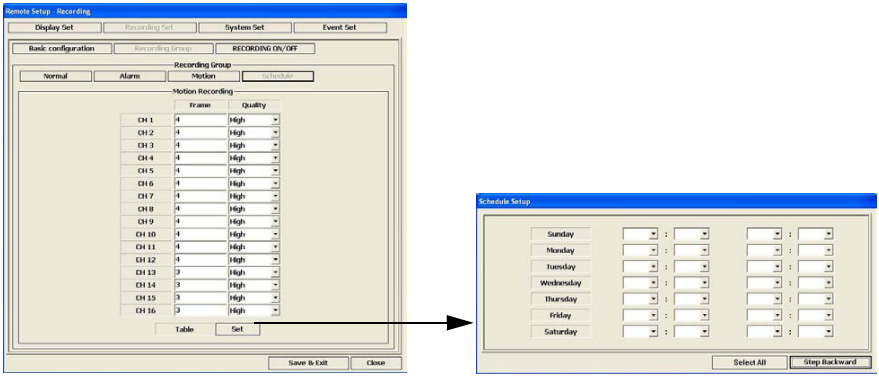
- Motion Page: Configures the number of FPS (Frames per Second), Recording Quality and Sensitivity for all available Cameras

  Use the SET Menu Button to set up the Motion Detection Area for each available camera.

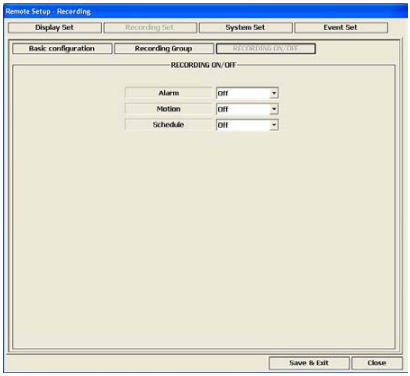


- Schedule Page: Configures the number of FPS (Frames per Second) and sets the Recording Quality for all available Cameras

Use the SET Menu Button to set up the Motion Detection Area for each available camera.



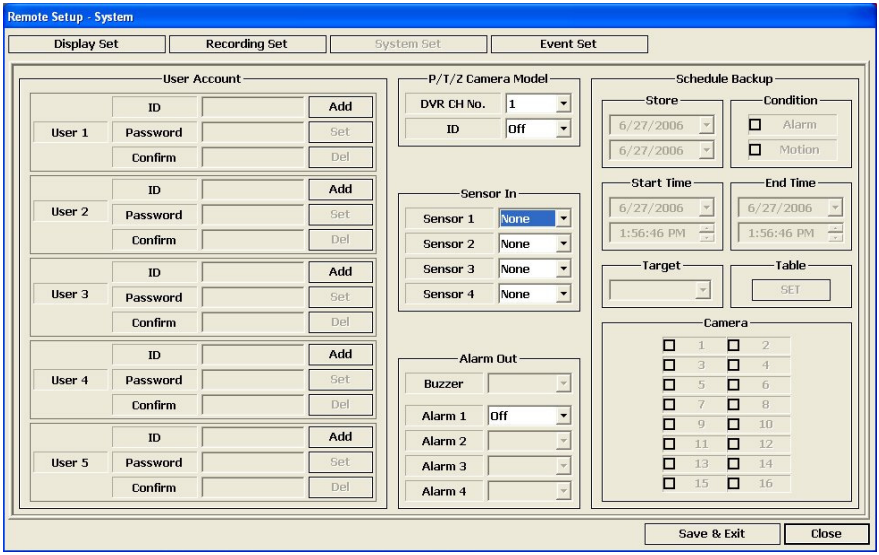
• **Recording ON/OFF** - Sets Recording for Alarm, Motion and Schedule to ON or OFF.



3. System Setup

The System Setup controls some of the general functionality of the remote DVR:

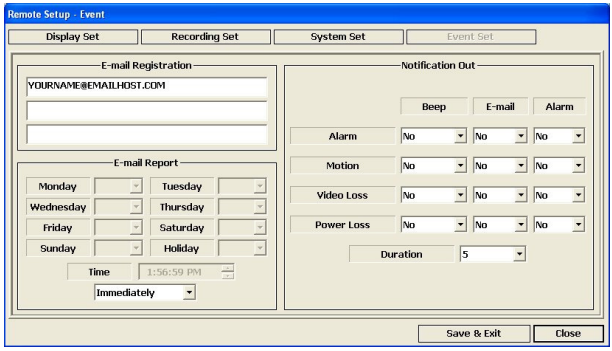
- **User Accounts** - Add up to 5 user accounts for remote access to the DVR unit.
- **PTZ Camera Model Setup** - Configuration for PTZ enabled cameras.
- **Sensor IN Setup** - Configuration for any external sensor devices connected to the remote DVR (such as Door or Window Sensors) to a maximum of 4.
- **Alarm OUT Setup** - Configuration for Alarm type devices (maximum of 4).
- **Schedule Backup** - Configuration for scheduled backup



4. Event Set

The Event Setup controls event related reporting and alerts:

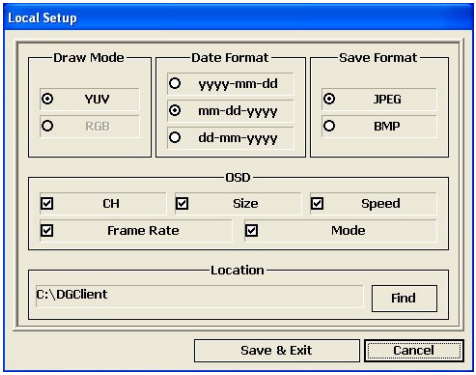
- **Email Registration** - Add email addresses for automatic event alerts.
- **Email Report** - Configuration for Alert Reporting to email by Day, Time, and when the email should be sent (i.e. immediately)
- **Notification Out** - Sets the Alert Type (Beep, Email or Alarm) to YES or NO for Alarm, Motion, Video Loss and Power Loss. Also sets the duration for the alarm.



Local Setup

Configuration settings for the Local PC.

- **Draw Mode**: Select the color format (YUV of RGB).
- **Date Format**: Specifies the date format to be displayed on the image (yyyy-mm-dd, mm-dd-yyyy or dd-mm-yyyy).
- **Save Format**: Specifies the file format for the saved image (JPG or BMP)
- **OSD**: Specifies what information will appear on the On Screen Display (Channel, Size, Speed, Frame Rate and Mode).
- **Location**: The installation directory for the Web Client software



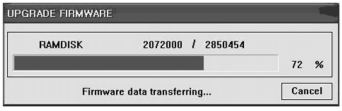
Firmware Upgrade

The firmware on the remote DVR unit can be updated through the web client.

1. Download the most recent firmware from the Lorex website, and place the downloaded file in the C:\DGClient\Upgrade folder on the PC

2. Select the Firmware Upgrade option from the Setup Menu. IF the new firmware is detected, an Upgrade dialogue box will appear. Select the Upgrade button.

3. A status indicator window appears during the upgrade process.



4. Once the update has completed, a success window will appear. Press OK to the Upgrade window, and reboot the remote DVR unit.

Channel Buttons

Displays individual channels when selected.

Date / Time

Displays the Date and Time of the local PC.

Troubleshooting

When a malfunction occurs, it may not be serious and can be easily corrected. The following describes the most common problems and solutions. Please refer to the following before calling your DVR dealer

Problem:

DVR Unit is not receiving power, or is not powering up

Check:

- Confirm that all cables are connected correctly
- Confirm that the ON/OFF (I/O) switch on the rear of the unit (beside the power cable connection) is ON (in the I position)
- Confirm that there is power at the outlet:
    - Connecting the power cable to another outlet
    - Test the outlet with another plugged device (such as an electric calculator or phone charger)
- If the unit is connected through a power bar or surge protector, try bypassing the bar and connecting the power directly to the wall outlet

Problem:

DVR is not responding when any of the buttons are pushed or does not come out of STANDBY MODE

Check:

- Turn the master power switch OFF using the (I/O) switch on the rear of the unit (beside the power cable connection):
    - Press the (I/O) switch to the OFF position (O)
    - Wait for 1 minute - all LED light indicators on the front of the unit will be off
    - Press the (I/O) switch to the ON position (I)

The unit will make an audible alert when powered back on

Problem:

There is no picture appearing on a Channel / Camera is not displaying

Check:

- Check the camera video cable and connections - Disconnect and reconnect the cable at the DVR and at the Camera
- Try moving the camera to another channel or use another cable

Problem:

The image on the DVR does appears, but does not have sound

Check:

- Check the VOLUME
- Check the CAMERA connection to the DVR
- Confirm that the Camera has sound capabilities (Refer to the manual for the camera model for further information on the Camera functionality)

Problem:

The picture on the DVR is poor, shrinks or flickers

Check:

- Check the camera video cable and connections
- Disconnect and reconnect the cable at the DVR and at the Camera
- Clean the camera lens
- Adjust the CONTRAST and BRIGHTNESS settings in the Menu (Page 31)
- Check that the Camera is not in direct sunlight

DVR Specifications - Appendix #1

Model:				L404	L408	L416
Video	Camera Input(Ntsc,Pal)			4	8	16
	Output			1 BNC, 1 S-Video	1 BNC, 1 S-Video, 1 VGA	
Audio	Audio Input			1 RCA	4 RCA	
	Output			1 RCA		
Sensor in (No,Nc)/ Alarm Out				4/1		
Operating System				Embeded Linux OS		
Display	Speed			120fps	240fps	480fps
	Resolution(Pixel)			720*380, 260*240(NTSC) / 720*288, 360*288(PAL)		
	Split Screen			1,4	1,4,8,SEQ	1,4,8,16,SEQ
Recording	Compression			MPEG-4		
	Resolution(Pixel)			720*240, 360*240(NTSC) / 720*288, 360*288(PAL)		
	Picture Quality			3 Steps (High, Middle, Low)		
	Mode			Normal, Motion, Alarm, Schedule		
	Priority			Alarm -> Motion -> Schedule -> Normal		
	Speed	Total	NTSC/ PAL	60fps(720*240), 120fps(360*240) / 50fps(720*288), 100fps(360*288)		
		Each Chanel	NTSC	30fps(360*240) 15fps(720*240)	15fps(360*240) 7.5fps(720*240)	7.5fps(360*240) 3.75fps(720*240)
			PAL	25fps(360*288) 12.5fps(720*288)	12.5fps(360*288) 6.25fps(720*288)	6.25fps(360*288) 3.125fps(720*288)
	Water Marking & Scrambling			Proprietary Algorithm		
Playback	Display			1,4	1,4,8	1,4,8,16
	Search Mode			Date & Time, Calendar		
	Speed			Normal, REW & FF(Recorded Speed *2, *4, *16), Frame to Frame, Pause		
	Device			Internal HDD		
	Still Image Capture & Save			JPEG Compression or AVI Fromat & USB I/F Device (Memory Stick)		
Network	Network Interface			Ethernet		
	Protocol			TCP/IP, SMTP, HTTP, DHCP,		
	Serial Communicaton			No	RS-232 1EA, RS-485 1EA	
	Application			Windows 2000 / XP(PC Client System)		
	Web Browser			Internet Explorer 5.0 Higher(DVRs Contorl or Viewing)		
	Event Transport			When Event Occur, Set send to e-mail.		
Back Up	Interface			USB 2.0		
	Backup Device			External HDD, CD/DVD-RW, Network, Memory Stick, Internal CD/DVD-RW		

DVR Specifications - Appendix #1

Control	Alarm Hold Time		5~240 SEC	
	Event Log		Up to the 256 events(Alarm,Motion,Video&Power Loss,Power&Record On/Off	
	Remote Controller		IR Remote Control	
	Pan/Tilt Camera		No	Control From RS485 Interface
Others	HDD		Supports Max. * 2HDD	
	Power Source		100~240V AC, 50~60HZ	
	Power Consumption		60W	250W
	Operating Temperature		5~40 (41~104F)	
	Relative Humidity		Maxium 80% Non-Considering	
	Weight	Net	6.0Kg	
		Gross(Box)	7.0Kg	
	Dimension	Net	450(W)*370(D)*90(H)mm	
		Gross(Box)	500(W)*460(D)*190(H)mm	

As our products are subject to continuous improvement, LOREX Technology Inc. and its subsidiaries reserve the right to modify product design, specifications and prices, without notice and without incurring any obligation.

E&OE

Connecting Cameras - Appendix #2

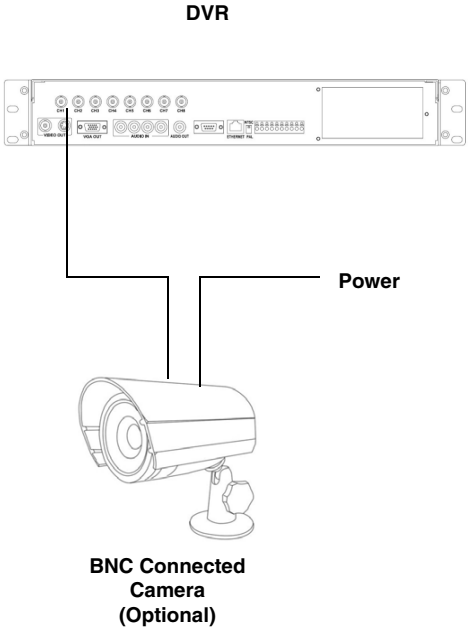
The L400 Series DVR includes 4 x 1/4” Color CCD DIN Cameras. Additional cameras can be added to the 4 additional camera inputs using the DIN or BNC ports.

BNC Connected Cameras

BNC connected cameras are not included with the DVR, however can be ordered online at www.lorexcctv.com

BNC Cameras have several cables and receive power from a wall outlet

1. Connect the Video cable to an open BNC Video Port (middle row of ports) on the back of the DVR labeled CH1 - CH8 (varies based on 4, 8 or 16 Channel Model)
2. Connect the Audio cable to an open Audio port on the back of the DVR matching the port connected in step 1
3. Connect the power supply cable to an electrical outlet



Connecting to an Observation System - Appendix #3

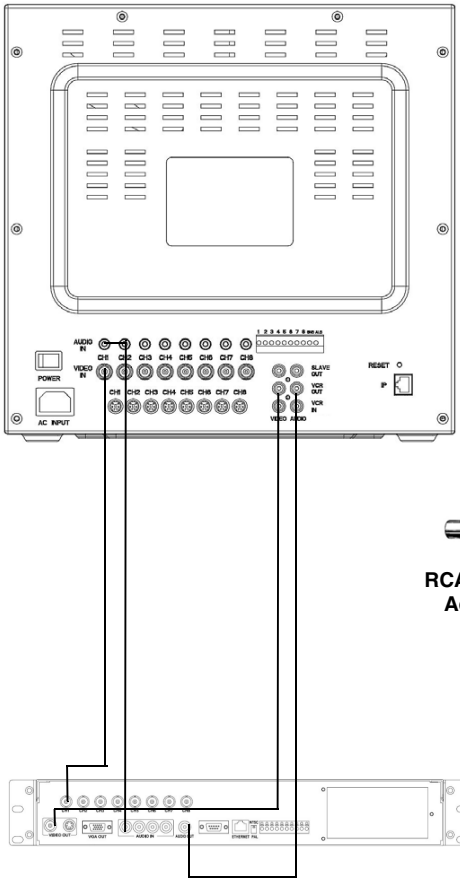
The DVR can be used with an Observation System (not included).

NOTE: The CH1 - CH8 BNC Video inputs serve as Looping Video Outputs by individual channels when a DIN camera is connected to the associated channel on an Observation System.

1. Attach the BNC to RCA (Male to Female) adapters on the BNC CH1-CH8 found on the DVR.
2. Attach the BNC to RCA (Male to Female) Adapters on the BNC CH1-CH8 found on the DVR
3. Connect the standard RCA cables from the DVR to the DVR.
4. Connect the Audio Cables from the DVR CH1-CH8 to the DVR CH1-CH8
5. Connect cables from the DVR Video / Audio Out to the VCR IN (Video and Audio) on the DVR

To switch from viewing the DVR to viewing the DVR, press the **VCR** button on the front panel of the Observation System.

OBSERVATION SYSTEM
(Not Included)



RCA to BNC Adaptor

DVR UNIT

Connecting a TV/Slave Monitor - Appendix #4

Connections to a TV or Slave Monitor (not included) can be made in several different ways on the back of the DVR.

Connecting to a TV

1. Connect the SLAVE VIDEO OUT port on the back of the DVR to the VIDEO IN port on the back of the TV.
2. Connect the SLAVE AUDIO OUT port on the back of the DVR to the AUDIO IN port on the back of the TV.

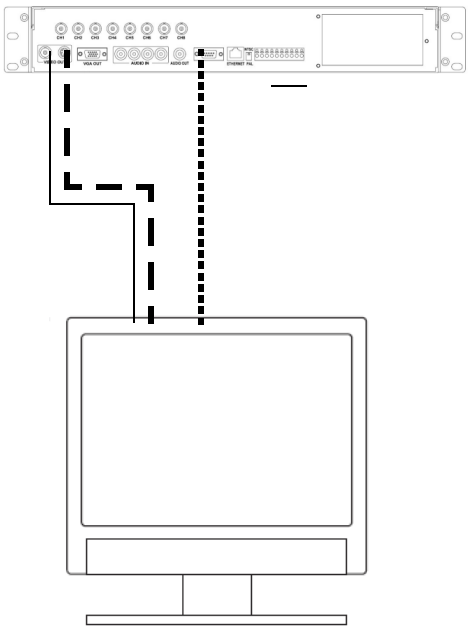
Connecting to a TV or Monitor with S-Video

1. Connect a cable to the S-VIDEO port on the back of the DVR to the S-VIDEO port on the back of the TV or Monitor.

Connecting to a Monitor with VGA

1. Connect a cable to the VGA port on the back of the DVR to the VGA port on the back of the Monitor.

DVR



TV / SLAVE MONITOR
(Not Included)

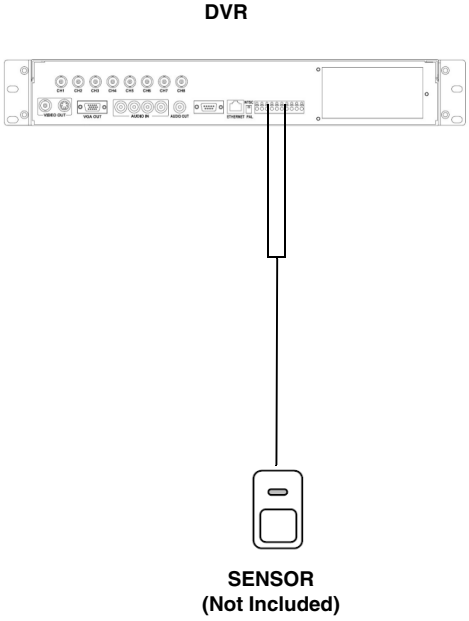
Connecting Motion / Alarm Device - Appendix #5

Motion detection and Alarm controls are enabled through the Menu system on the DVR. Additional motion sensor devices can be connected to the system (Motion Sensors, Door/ Window Sensors).

A motion detection or sensor unit can be used to send a signal to the DVR to begin camera viewing on the matching Video Channel (when enabled in the MENU/ALARM SET MODE)

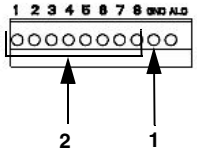
- Example: A Window sensor unit has been installed on Alarm Block port #4. When this sensor is activated, the camera on DIN or BNC VIDEO port #4 will become active (if enabled in the MENU on the DVR)

For the corresponding Menu Programming, refer to Page 26.



Installing a Sensor

1. Connect the GROUND Cable to the GND port on the Alarm Block on the DVR

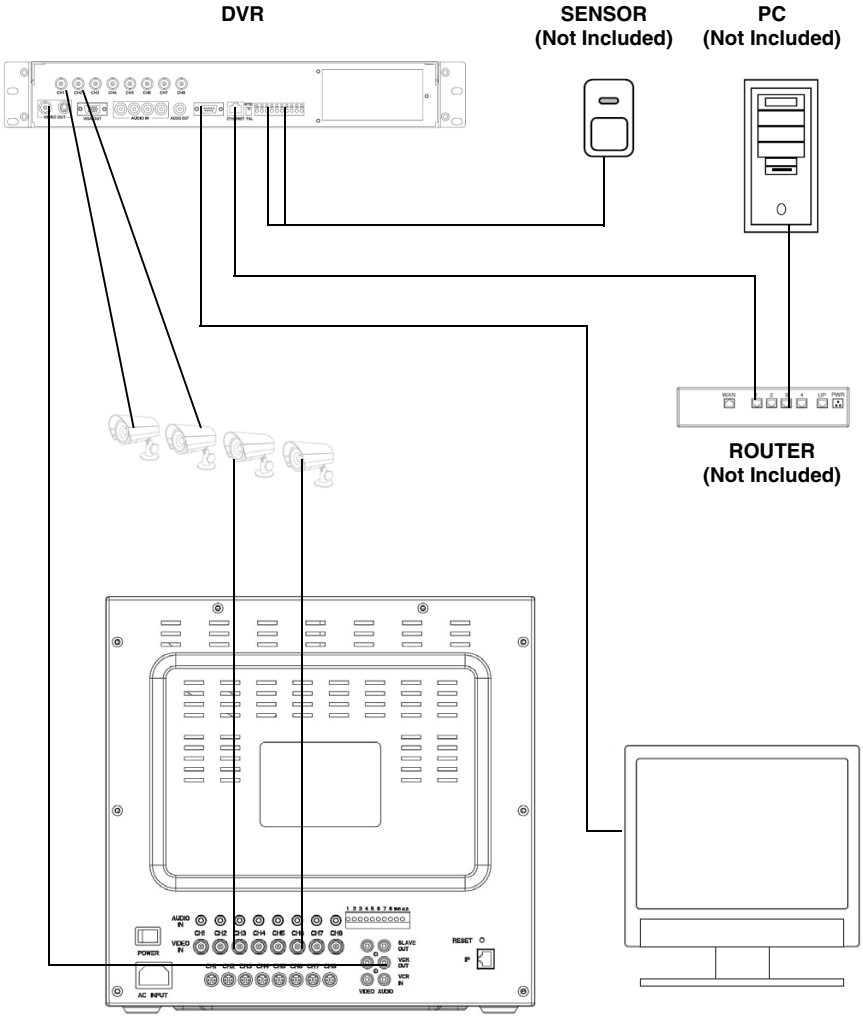


2. Connect the SIGNAL Cable to a numbered port (1-8)

To start ALARM RECORDING on a DVR unit, refer to the manual for your specific DVR product.

Full Connectivity Diagram - Appendix #6

The following diagram outlines a general set of connections available with the L400 Series DVR.



Optional Accessories

The following accessories are available to add to your existing system

CABLE

Extends the length between the CAMERA and MONITOR. Available in 65', 100' and 250' lengths

OBSERVATION SYSTEM / MONITOR

Observation System / Monitor - View Data from your DVR

QUAD LOOPING OUTPUT CABLE

Connects 4 video outputs of a multi-channel CCTV MONITOR to a 4 Channel DVR

OBSERVATION CAMERAS

Accessory PIR motion sensor observation system camera

CAMERA ACCESSORIES

Night Vision Accessory with 68 LED illuminators for viewing in total darkness

SUNSHADE HOUSING

Protects the CAMERA from direct sunlight (which prevents over-exposing the image)

TO ORDER THESE ACCESSORY ITEMS OR FOR A COMPLETE LISTING OF AVAILABLE PRODUCTS, PLEASE VISIT US ON THE WEB AT:

WWW.LOREXCCTV.COM

It’s all on the web

- **Product Information**
- **Specification Sheets**
- **User Manuals**
- **Software Upgrades**
- **Quick Start Guides**
- **Firmware Upgrades**

VISIT
www.lorexcctv.com

Strategic Vista International Inc.